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Identification of Competencies for Sign Designers in Jordan

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Identification of Competencies for Sign Designers in Jordan

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CERTIFICATE OF ORGINALITY

This is to certify that I am responsible for the work submitted in this thesis, that the original work is my own except as specified in acknowledgements or in footnotes, and that neither the thesis nor the original work contained therein has been submitted to this or any other institution for a higher degree.

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Signature

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Date

… To my Parents

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Abstract

The aim of this research is to propose ways in which graphic designers can improve the design of commercial signage in Amman, Jordan. A survey of the effectiveness of recent signage regulation in the type and placement of commercial signage has led to the conclusion that regulations alone will not lead to improved quality in the production and siting of commercial signage without multi-stakeholder involvement and the dedicated training of those working in this field. There is a need for practitioners to develop specialised skills and knowledge in sign design, as opposed to applying only generalised graphic design techniques to sign production. Such skills include problem-solving, visual communication methods and competency in the application of the latest multi-media technology. It is proposed that by developing and incorporating sign-design competencies within the graphic design curriculum, practitioners will be better able to work effectively in this field.

Following the investigation of the situation in Amman with respect to commercial signage, four related investigations were undertaken in order to formulate a list of recommendations which could be incorporated into an improved curriculum for teaching sign design. The first study investigated the problems caused by poorly designed and situated commercial signage in Amman. The second and third studies investigated urban signage solutions adopted by companies in other parts of the world, namely the global marketing of the McDonald's brand and the corporate signage of Coventry University UK. The final study was a comparative investigation of graphic design education (with respect to sign design) in Jordan and the UK. Following these investigations, the Delphi technique was employed to elicit a set of 25 competencies for sign design learners, recommended by an expert panel of sign industry professionals and design academics.

It is anticipated that the incorporation of such competencies will contribute to the improvements within the sign industry, as designers become better equipped for the task of sign design. Therefore it is anticipated that this research will contribute to the furthering of design practice by identifying the additional knowledge and competencies that graphic designers need to create appropriate commercial signs.

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Chapter One: Introduction

1.1 Chapter Outline

This chapter describes the main theme of the research – the identification of competencies for sign designers as a solution to the problems of commercial signage design in Jordan. It is hypothesized that a curriculum based on the competencies discovered during the research will ensure that designers of commercial signs are better equipped to face the challenges of creating effective signage, which would be in keeping with the urban landscape in Jordan.

1.2 Introduction

This research emerges out of personal and public concern for the cityscape of Amman. As a Jordanian graphic design practitioner and resident of Amman I have noted changes in the amount and variety of commercial signs appearing on buildings throughout the city. However, its regulatory bodies and developers have not, until recently, considered the effects that unregulated commercial signs had on the aesthetics appearance of the city (Al-Asad, 2004a; Abu-Ghazzeh, 1996, 1997; Addustour, 2006). As a result many signs have become a source of visual pollution detracting from the overall appearance of the city.

The problems caused by excessive, unregulated signs have been previously recognised, for example by Barker and Fraser (2006) who noted that such signs could be an eyesore, contributor to road accidents, result in damage to buildings and a fall in the prestige and economy of an area. However, Mathur (2005) also noted that, when the function of signs is in keeping with the city culture, they would add positively to

the city environment. Further, Claus and Claus (1971) asserted the importance of both the location and local architecture in creating a signage system which may provide the public with necessary information without destroying pleasant surroundings.

Although members of the public and the owners of signs may have opinions about their aesthetics and effectiveness, the responsibility for commercial signage (such as the design and location) lies with many stakeholders. For example, Sims (1991) acknowledges the role of the municipality in organising and controlling signs through regulations, while Follis and Hammer (1979) argue that the designer should consider the front of the building when creating a sign in order to integrate it with the overall structure and produce a unified architectural statement.

The concern felt about the signs in Amman led to the fundamental question of how can the problems caused by commercial signage be reduced in Amman? My own experience, this research and the literature have shown that a sign designer has to balance a number of factors if s/he is to create an effective, aesthetically pleasing sign which balances the needs of the client, the regulatory authorities and the architectural identity. Although it may be argued that sign design is part of graphic design, it is also part of the border field of environmental graphics and communication design.

A sign designer is concerned with, for example; estimation, product awareness, materials investigation, sign construction, windage and weatherage, lighting/power safety and security factors, as well as liaison with industry, project management and the development of prototypes (Calori, 2007; Sims, 1991). Several investigations undertaken as part of this research were to understand in more detail the factors that a

practising sign designer must deal with,

Whilst trying to understand the skills needed by a sign designer to work effectively in a complex marketplace, this research acknowledges both the needs of the municipality and commerce in shaping the design of commercial signage.

The needs of the municipality were brought sharply into focus when in 2007, Greater Amman Municipality (GAM) (a collaborating organisation in this research) introduced regulations to reduce visual clutter and improve the urban environment. Unfortunately, the regulations were introduced quickly, with limited levels of consultation, and, as far as can be determined, without reference to this or previous research (Abu-Ghazzeh,1996).

The status of commercial signs in Amman has been a cause of concern for Greater Amman Municipality. Before 2007 signs proliferated on the façades and upper floors of buildings and needed to be controlled. The municipality sought to control this solely by regulatory means, rather than looking at the wider issues of urban design, the relationship of signs to the architecture, environment, the intended function of the signage, and the role of sign design practitioners.

Although the regulations specifically and immediately addressed some aspects of visual clutter, their lack of clarity has resulted in a haphazard and piecemeal adoption. Sign design firms and their clients work within or sometimes around the new regulations. So whilst the regulations have resulted in a partial reduction in visual clutter (Addustour, 2007), they have produced confusion and problems for sign designers who now have to contend with another set of issues they may not be trained to address.

It is argued that regulation alone may not lead to improved quality in the production, design and placement of commercial signage without multi-stakeholder buy-in (such as industry, architects, graphic designer, urban designers) and the dedicated training of the sign designers working in this field in ongoing professional development as a minimum requirement. The Greater Amman Municipality places restrictions on the size, height, illumination, and the content of on-premise commercial signs.

Restrictive regulations aim to improve the commercial environment through aesthetic enhancement, which, in turn may lead to increased tourism (Taylor, 2005). In fact, the limitations imposed by the regulations in Amman do not take into account the location, different building facades, and associated traffic patterns. Other restrictions seek to dictate colour, materials, illumination sources, and acceptable types of signs.

Commercial signage needs to be designed to complement the surrounding environment, and accommodate differences whilst supported by graphic design principles. Morris *et.al* (2001) discussed the impact of regulations on commercial signage and how the responsibility of commercial signage regulation has resided with the zoning or code enforcement officer. They attributed this to the lack of connection between the enforcement officer and the professional planning staff who influence and guide the overall community design program or policies. Morris *et.al* argues that this arrangement creates few opportunities for planners and the sign industry to engage in any discussion beyond of approval of signs. A highly regulatory environment may ignore the benefits signs bring to economic development through increased commercial activity and vibrant colourful streetscapes.

The sign designer is an intrinsic part of the process and may be a contributor to problems if s/he is not able to balance conflicting demands. For example, the clients' demands for large advertisement may run counter to the regulations or site demands. Therefore it is necessary to know which designers are involved in the process, how they approach their work, their characteristics and how their training equips them to work in a changing context.

Those involved in sign design in Jordan are mostly graphic design graduates. They are equipped with certain competencies in graphic design, but whether these are sufficient for them to practise sign design is not known. Reflection on the data that emerged from the research and the situation unrolling in Amman with respect to the implementation of the new regulations opened my mind to new directions and avenues of exploration which in turn would lead to new solutions.

There is a need for practitioners to develop specialised skills and knowledge in sign-design, as opposed to applying generalised graphic design techniques to sign production. Such skills in addition to problem-solving include understanding the principles of environmental graphic design, the effective use of typography, environmental issues, properties of materials, the process of planning commercial signage systems, and human factors in architectural environment and communication design issues associated with signage.

In Amman, it was noted that graphic designers are usually employed in commercial signage projects, as they are trained in graphic communication. However, it emerged that not all graphic design programmes have special courses or modules in signage design, even though many graduates will work in this field. By developing and incorporating sign-design competencies within the graphic design

curriculum, it is argued that students will be able to work more effectively in this niche area. This research will contribute to the development of sign design practice by identifying the additional knowledge and competencies that graphic designers need to design appropriate commercial signs.

Although the problem caused by unregulated commercial signage in Amman is an old issue, dating back to 1996, few who have investigated this problem or proposed solutions. Abu-Ghazzeh's (1996) study (discussed in Chapter 2) reinforced my belief that regulations alone cannot be used on their own to reduce visual clutter..

1.3 Aim and Objectives

Given the initial question which is, how can the problems caused by commercial signage be reduced in Amman? The aim of this research was to propose new ways in which the design of commercial signage in Amman could be improved. This resulted in the following objectives:

- To understand the shortcomings of current commercial signage in Amman.
- To understand the current and future role of graphic designers in creating commercial signs.
- To evaluate the extent to which current training equips graphic designers for a career in commercial sign design.
- To propose a set of competencies that future graphic designers working in this market will need and from which new courses could be developed.

1.4 The Research Approach

This research addresses the need to reduce visual cluttering of commercial building facades by improving the training of sign designers to enable them to create effective commercial signage. In order to achieve the aims and objectives, a mixed methods approach was adopted in order to map the design research cycle as outlined by Scrivener (1999) and shown in Figures 1.1 and 1.2. When signs are poorly designed or proliferate that they may become an eyesore and detract from the architectural landscape. Although the amount and position of signs can be controlled by state regulations, it remains the sign designer's role to create aesthetically pleasing and effective signs which recognise both the regulatory restrictions, the location and the needs of the client to promote his/her business effectively. The role of the designer and the training s/he receives are therefore crucial in creating a varied, yet aesthetically pleasing and coherent set of commercial signs across the city.

The research sought to examine the above issues. However, it progressed, underlying assumptions about the nature of the solution were questioned. This was seen in a movement away from the advocacy of regulations, to consider the graphic designer, the jobs s/he has to perform, and the skills needed to undertake these. This led to a related question. Is the current education for graphic designers wishing to work in this domain fit for purpose? The way that understanding was changed during the cause of the research is shown by the feedback loop in Figure 1.1. As the research progressed, it became clear that some adaptation to the aims and objectives of the original research was required. The act of research created new knowledge and understanding.

Figure 1.1 Design Research Model (Scrivener, 1999)

As shown in Figure 1.2 this new understanding was gained through the literature review and case studies. The proposed solution focussed on the designers' education and training and the competencies needed. The competencies were developed from an understanding of the shortcomings of current commercial signage in Amman, the role of graphic designers in creating commercial signs, and the evaluation of current training material in relation to commercial sign design. The proposed set of competencies was evaluated by an expert panel drawn from industry and academia.

Figure 1.2 Research model with feedback loops

The research has led to a comprehensive understanding of the existing situation and the development of a set of competencies for curriculum design which, if implemented, will enable sign designers to work more effectively and creatively in meeting clients' briefs whilst respecting environmental context, local regulations and taking cognisance of new manufacturing and production processes. Sign designers need to think about signs as structures integrated with the architecture. They must respect the clients' wishes, but should balance these with the needs of the location. Sign designers apply their knowledge to an individual space/environment, so sign design can suit a specific installation. Figure 1 provides a theoretical anchor to the research argument. It shows separate nested structures:

- **Site / Architecture / Environment**:

This works as a structure – clearly a sign designer needs to take account of the immediate, nearby and wider space in which a sign is to be situated.

- Medium / Design:

These are keys understandings that the sign designer needs to bring to the task of designing a sign. Medium (which describes the technicalities of material and manufacturing) and Design

- Human behaviour / Culture:

This clearly indicates that Culture and Human Behaviour are both receiver and consumer domains. Medium and Design are both sender and producer domains. The model will help designers to adopt best practice design elements and decision making to create signs that are appropriate to the location and building design, and contribute to the image of the city by conveying its quality and unique character. It is hypothesized that better prepared sign designers will contribute more effectively to an attractive built environment and help commercial districts to function efficiently and creatively.

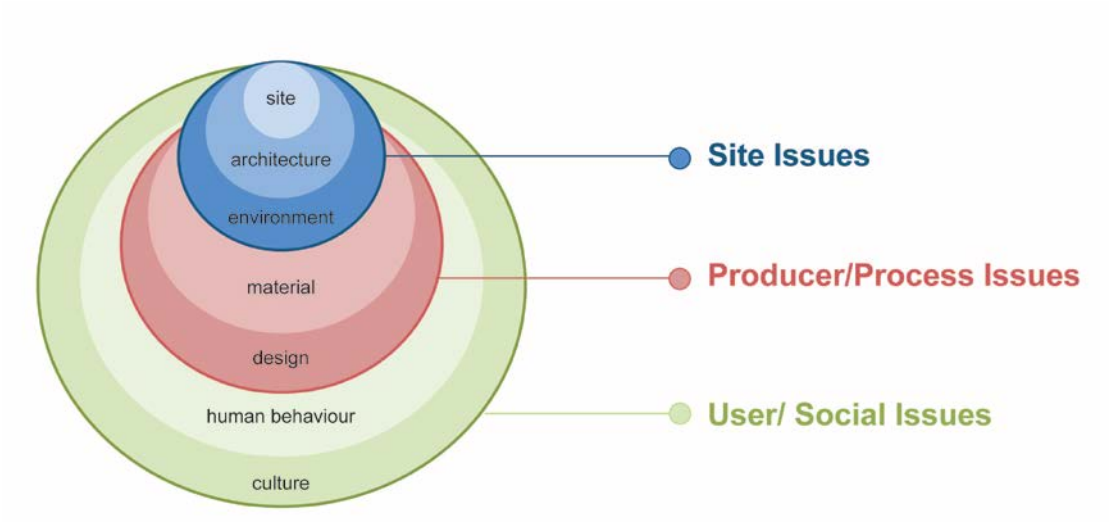

Figure 1.3, an application of knowledge to a particular space.

1.5 Organisation of the Thesis

The thesis structure was designed to reflect the research approach (shown in Figure 1.1). It is divided into nine chapters which map on the "Understand-Propose-Realise-Evaluate" lifecycle as shown in Figure 1.1.

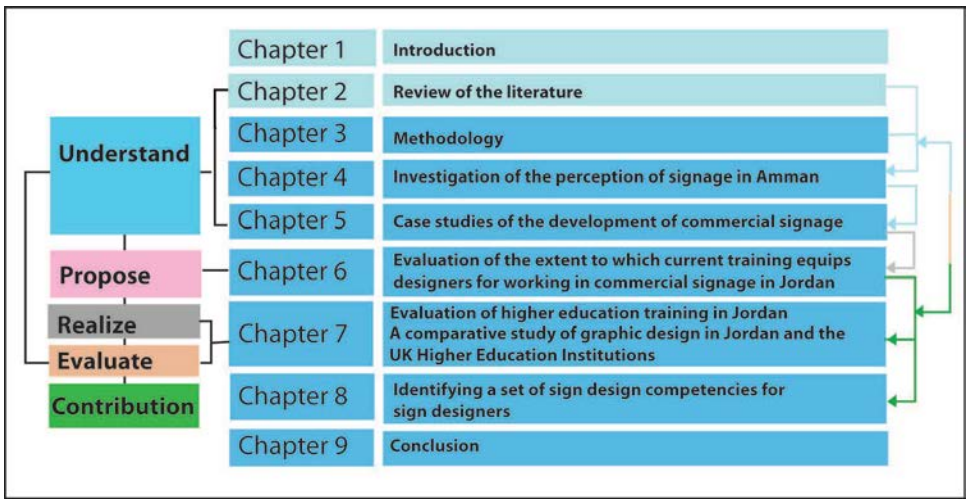

Figure 1.4 Thesis Structure

1.5.1 Understand

A literature review was conducted to gather information about a number of issues which are considered important to sign design and commercial signage on building facades, in order to inform the research questions and to identify gaps in knowledge.

Following the literature review, four individual studies were undertaken:

1: Investigation of the perception of signage in Amman

This was undertaken to investigate how the commercial signage on building facades in Amman was perceived by the Greater Amman Municipality, the sign industry, and sign users. The results from this study confirmed that signs were seen as a source of overwhelming visual clutter. As the survey took place immediately after the enforcement of the new regulations, the immediate effects brought about by this action were noted.

This led to two conclusions; firstly that a consultation and implementation plan should have been produced to inform and then facilitate the decisions of the municipality; and secondly that the sign designers were ill equipped to meet the additional challenges brought about by the new regulations.

In general, changing the ways in which policy decisions are drawn up and administered obviously requires a radical cultural change in Jordan. Although not impossible, this is beyond the scope of this thesis. However, the way in which the GAM consulted with members of the sign design profession is an issue of central importance. The consultation was not extensive, and this is interpreted as indicating that little regard was placed upon the opinions of the sign designers, and that the complexity of sign design (in relation to the operation of the urban environment and economy) was underestimated.

The next stage of the research sought to understand more about the practice of sign design in order to understand the skills and competencies needed to work in this area, and with a view to considering how the skills and the abilities of sign designers might be strengthened.

2: Case studies of a global brand's signage showing adaption to local conditions

Two case studies were undertaken.

a- A case study of the development of Coventry University's brand signage and implementation.

b- A contextual and subjective study of a global brand's signage showing adaption to local condition- McDonald's.

These two studies explored the role of the designer in planning a signage system and the role of top down and local factors in decision making. These studies also

highlighted the wider skills designers need to understand the impact commercial signage can have on different user groups and the way in which commercial signage is developed in relation to function and location.

It was concluded that to design an individual sign or a sign as part of a signage system requires specialised skills and knowledge in sign design, as opposed to generalised graphic design techniques. Such skills include solving planning and functional problems, understanding local regulations, the properties of materials, the visual impact of scale, and competency in the use of multi-media technology.

3: An investigation of the skills needed by practising designers in Jordan

Semi-structured interviews were held with design practitioners in Jordan to evaluate the extent to which current training equips graphic designers for a career in commercial sign design. Graphic designers working as sign designers were interviewed to discover more about their practice, and the extent to which their training equipped them for it. This helped to determine the competencies that are needed by graphic designers engaged in sign design.

4. The teaching of sign design as part of graphic design courses in design institutions in Jordan and in the UK

A complementary study was undertaken of how sign design is taught as part of graphic design courses in Jordan and the UK. This was undertaken to understand the teaching methods used and skills currently taught in graphic design and the extent to which sign design features in these courses

These studies showed that there is a lack of specialised training in sign design practice in graphic design curricula in Jordan. This may lead to designers entering the

market place with little understanding of the skills and techniques that are central to the design of effective, location appropriate and aesthetically pleasing signage. Importantly, this led to a consideration of how the specialised teaching for sign design could be achieved. Such training would produce sign designers who are better equipped to create and situate commercial signage appropriately within the urban environment.

1.5.2 Propose:

Although this research took as its focus the problem of commercial signage on the building facades in Amman, most large cities face similar problems. It is argued that regulation, whilst controlling signs, will not improve their design or their appropriateness for a specific location. A qualified designer with the required skills will be able to understand the regulations and the architectural and environmental requirements. Sign design needs additional competencies to those offered in graphic design courses.

Using such skills, designers can create commercial signage that performs a vital role in providing for a unique identity and sense of place, thereby effectively creating a brand image for a space in environmental form (Calori, 2007). The enforcement of regulations will protect the environment by reducing some visual clutter, but will not on its own create effective signage in which the designer plays a principal role on behalf of stakeholders.

1.5.3 Realise:

From the interviews with practising sign designers and faculty staff responsible for the formulation and the delivery of graphic design courses in Jordan and UK, a set of

potential competencies was drawn up, upon which a specialised sign design course, or a designated module within graphic design teaching, could be based.

1.5.4 Evaluate:

In the final stage of the research, the proposed competencies were evaluated by an expert panel drawn from an international pool of academics and senior members of the sign industry.

The competencies were extended, validated and finally agreed on using the Delphi method. A technique widely used to gain consensus from experts (e.g. Rowe and Wright, 1999; Dunham, 1998), and used in educational research by Yu Wang (2006) and Dharavath (2003).

A final set of 25 competencies was agreed upon by the panel. These may be grouped as follows:

1. Ability to create and develop appropriate visual responses to commercial signage.

2. Ability to apply graphic and sign design principles to enhance corporate identities in retail spaces

3. Understanding of and ability to utilise signage mediums and technology

4. Understanding of the physical, environmental, architectural and human factors that contribute to sustainable products, strategies and practices.

1.6 Contribution to Knowledge

The proposed contributions to knowledge are as follows:

1- An understanding of commercial signage on building facades in Amman

2- A set of sign design (general and specific) competencies that can be used for curriculum development.
3- A model of the factors which need to be considered in sign design.

1.7 Conclusion

This chapter has introduced the research subject and the identification of competencies for sign designers that offer a solution to the problems of commercial signage design in Jordan. It has shown the manner in which the studies undertaken have been used to fulfil the aims and objectives, and how this relates to the organisation of the thesis.

Chapter Two: Review of the literature

2.1 Chapter outline

The subject of this study is to identify the competencies required by sign designers to reduce the visual impact of commercial signage on building facades upon the environment and architecture of Amman. This chapter presents the research proposal and questions, and introduces the role of controls currently adopted to minimize visual pollution in different cities in Jordan.

Given the lack of studies and data on sign design, the sign industry, and design education in Jordan, this chapter explores the context for the research and highlights issues related to commercial signage and sign design relevant to Jordan. The review begins with an overview of the Amman Master Plan; explores the factors that impact signage in Amman; the functions of commercial signs; signage systems; examining sign design as a form of graphic communication; the practice of sign design; and concludes by drawing out the competencies relevant to this research.

2.2 Introduction

The literature review presents an overview of previous work on related topics that provide the necessary background for this research. It begins with an analysis of Amman and its strategic planning that aims to transform it into a ‘leading world city’ and how this effects Amman’s signage.

The purpose of investigating these topics was to understand the context in which sign design takes place and how it is linked to graphic design, which requires different skills of the designers, and to understand the practicalities and difficulties of creating effective commercial signage in Amman.

This research focuses upon the impact of commercial signage on the building facades of Amman, and the need to reduce its visual clutter by creating effective commercial signage and improving the training of sign designers.

Portella & Reeve (2006) stated that "visual pollution" is an established expression commonly used in countries of North, Central and South America. It is usually given to unattractive visual elements of a streetscape; commonly cited examples are billboards, commercial signage, litter, graffiti, telephone lines and poles.

This "visual pollution" concerns the chaos seen in the visual quality of Amman caused by commercial signs displayed on building facades in the commercial districts. These building are being damaged by the uncontrolled display of commercial signs (Abu-Ghazzeh, 1996). This is the result of an excessive number of signs and the great variations in their physical design features such as shape, size, colour, proportion, location on facades, and typography.

Portella (2007a) has stated that initiatives taken to reduce visual pollution and maintain the character of the parts of the city still not affected by visual overload have shown that the application of guidelines to control commercial signs is essential to preserve and improve the visual quality of historic city centres. Portella (ibid) and Pickard (2001) argued that, in order to achieve an attractive and pleasant built environment, it is essential that commercial signs are well designed and reflect the characteristics of buildings and areas concerned. Identification of such competencies is an under researched topic and requires multi disciplinary thinking at a level not required of graphic design per se.

This multi disciplinary thinking is based on understanding the issues related to commercial signage design, manufacture and display. This requires understanding of certain factors as discussed in Chapter 1, and forms part of the application of knowledge diagram in Figure 1.3, which relates to site issues, producer/process issues, and user/social issues.

2.3 Amman Master Plan

Since 1924 Amman has developed as a culturally diverse city and its signage has reflected its roots as an archetypal Arab city. As opposed, for example, to Damascus or Cairo, as Islamic cities, Amman's architecture and hence its signage is more diverse (Daher,2010). The east of the city is traditionally poorer with a less developed infrastructure, whilst the west is more commercially driven with correspondingly good infrastructure.

> In Daher's view (2010):
> Amman's urban beginnings and past existed as a marginalised reality that has not been celebrated and recognised by formal state practices … and was even excluded from orientalist/academic definitions of Islamic and Arab Cities of the Region (p2).

The Master Plan (1955 – 2008 in six phases) is a unique initiative to create Amman's first legally binding, participation-based plan to govern the City's growth over the forthcoming twenty years (Daher, ibid). The Master Plan builds on, and is defined by, the character of the historic and contemporary city, by what makes Amman, including topography, natural and cultural heritage, views and landmarks, public spaces, stable neighbourhoods, mixed-use streets, an emerging variety of scales, uniformity of buildings, as well as Amman's ongoing growth.

Daher (2010) explored the role of the Plan which seeks to extend Amman's unique character into the future, realising that Amman is able to blend modernity with its unique cityscape, whilst seeking to ensure that it complements the beauty, serenity and civility that existing Amman is known for. Six phases of the Amman Plan (2008) have been completed. These include the Interim Growth Strategy for High-Density Mixed-Use Areas, Corridors Intensification Strategy, Industrial Lands Policy, Rural Residential Policy, Airport Corridor Plan, and Metropolitan Growth Strategy (MGP). As planning in each phase is completed, development commences. For example, the high-density mixed-use buildings that were planned for the first phase are now proceeding through development review, and a number are nearing construction.

Daher (ibid) added that the Master Plan includes the Amman Downtown Development Plan and Revitalization Strategy. This will guide the future development of Downtown Amman. The Plan lays out a vision for the Downtown's future and in doing so provides a context for investments, a continuity of improvements, and a consistency in its efforts toward integrating planning, with the goal of creating a critical mass of activity in the downtown area. The plan aims to preserve the exclusive identity and vitality of the Downtown. It responds to the needs of integrating solutions for the existing problems of the Downtown, with its future development vision and growth.

Daher (ibid) confirmed that the Amman Institute for Urban Development has stated that the planning and implementation process has involved stakeholders from both the public and private sectors, and ideas from the public are being solicited through public consultation forums. The consultative process has been

institutionalised by establishing the Downtown Committee to act as a partner for the Greater Amman Municipality in the development process.

The committee includes representatives of the Downtown merchants, property owners and residents, in addition to professionals and experts from the wider community of Amman. This Plan is based on a development strategy that aims at maintaining the market (souq) character and identity of the Downtown historic core and bring people and businesses back to this area by creating revitalization triggers for economic, cultural and civic activities. The strategy also aims at strengthening the connectivity between the Downtown and the surrounding developments through streamlined urban development and the continuity of the public spaces.

The growth of the city and its expansion continue at an unprecedented rate. Beauregard and Marpillero-Colomina, (2011) stated that 'Amman 2025' was regarded as an ever-evolving document and multi-purpose tool that would do more than guide the physical development of the city. They added:

> Its avowed goals were to use the planning process to enhance the capacity of local government, create new forms of civic engagement, drastically reduce the distance between planning and implementation, launch innovative initiatives, and meet national development objectives while addressing traditional 'planning' issues**.** (p66)

Based on His Majesty King Abdullah II's letter (2006):

> To optimally balance healthy growth and quality living, flourishing expansion and organised districts, 21st-century conveniences and traditional character, we must embark on serious and comprehensive city planning for Amman (p1).

Beauregard and Marpillero-Colomina (ibid) noted that 'Amman 2025' was not considered a traditional or a typical master plan. It has distanced itself from the previous plans in five ways. Firstly it has closed the gap between planning and implementation; secondly it has increased stake holders' participation. Thirdly it has

reorganised the municipal government. Fourthly it has aligned itself to the national development, and lastly it has focussed on the concerns regarding the changing of the image of Amman. The second and last points are of interest to this research, ie stakeholder involvement in design making and the enhancement of the image of Amman.

The Master Plan embarked upon has initiated a number of projects which will create a global identity for Amman, and establish an allegiance between its residents and the city. One example of this is modernization that has seen the placement of street signs at intersections and numbers on buildings (Beauregard and Marpillero-Colomina, 2011). However, commercial signage has received little attention in the plan to date.

The Master Plan requires the careful balancing of the Municipality's need for financial revenue with the preservation of greater Amman's urban heritage and need to moderate the impact of signage on the streetscape (Beauregard and Marpillero-Colomina, ibid). A strategic decision-making matrix should be developed as a tool to rationalise signage placement decisions. Signage planning can be applied to both established and planned environments, but is best conducted as early as possible in the development process. Signage planning is a comprehensive and integrated approach, and the benefits are interlinked. The plan should create benefit in allowing sign designers to cope with consistent technical and design standards and in improving the signage visibility and street furniture functionality.

> The Master Plan was neither as comprehensive, prescient nor as determinative as planners conceived it to be. Neither has strategic planning served as an antidote to the weakness of the Master Plan as regards implementation, control over external factors such as inward investment, or the tension between technical analysis and citizen participation (Beauregard and Marpillero-Colomina (ibid, p69).

Amman has evolved rapidly since 1990 as a result of demographic, political and economic changes. Amman is now more integrated with global economic and consumer networks, as evidenced by the presence of international hotel chains, shops and fast food restaurants. The latest developments are in the form of a large shopping mall and the multi-use, high-rise buildings that include commercial, office and residential facilities.

Many residential buildings and districts have been transformed into commercial areas, such as Al-Abdali, Al Suweifya, Abdoun, parts of Alweibdah and Tla Al-Ali. Al-Asad (2005) stated that the high-rise is not a new building type in Amman. The first wave of high-rises appeared during the late 1970s and early 1980s, and consisted primarily of hotel buildings. Another phase of high-rise hotel buildings came into being in the 1990s. Amman has now entered a new phase of high-rise construction, which greatly surpasses the previous phases in terms of the quantity and size of buildings. This commercial expansion is reflected in the signage system and the size, number and location of commercial signs on the buildings' facades. Commercial signage is an integral part of the streetscape and its furniture.

2.4 The role of signs in a city urban design

Urban design concerns the arrangement, appearance and functionality of towns and cities, and in particular the shaping and uses of urban public space (Barnett, 1982). Urban design encompasses the preparation of design guidelines and regulatory frameworks and the legislation to control development and advertising (overlapping with urban planning). It may encompass the design of particular spaces and structures and in this sense overlaps with architecture, landscape architecture, highway

engineering and industrial design. It may also deal with ‘place management’ to guide and assist the use and maintenance of urban areas and public spaces (American Planning Association, 2006).

Unfortunately, the lack of planning regulations in Amman has led to large, high-density and mixed use real state being built haphazardly around the city. Marpillero-Colomina (ibid) commented that investors and developers purchased sites that were scattered about the city rather than concentrated geographically. This has led to building without a traditional central business district. The low–rise urban fabric of the city and the traditional, early twentieth century architecture indigenous to the region has been threatened by high rise offices and luxury apartments (Nasar, 1997).

Since the late 1980s, Greater Amman has tripled in size from 532sq km to 1662sq km, and people have become increasingly mobile, making life more complicated and faster paced. With this development comes a growing need for visual information to help the bustling city work effectively, and enable people to navigate their way around the city landscape and the services within it. Civic leaders and members of the elite, including King Abdullah II, have become concerned that the cultural heritage of Amman and its originality have been lost in the modernisation. Environmental planners have an important role in planning for well-designed urban signs that identify businesses, and effectively deliver information (Shami, 2007; Daher, 2010). Commercial signage should be treated carefully as part of the environmental planning.

Signage on urban streets may be considered as a way for many people to contribute to the landscape. Signage enables people to navigate round the city; they draw attention through their words, symbols, and pictures. In the case of Amman,

which did not have a street naming system, commercial signs on buildings were especially important. Some commercial signs stand as objects of interest in terms of their message and design. Historically signs have been prominent parts of the landscape, communicating through form and meaning (Pecquet, 1997). Although their relationship to the city has changed along with urban forms, the distribution of signs on city streets has always been complex. The results can be stimulating and exciting or be overwhelming and confusing (Abu-Ghazzah, 1997). There is little information to define when a site goes from exciting to overwhelming. There is even less to help designers to mitigate the process so that a unified, complimentary and individual character can be created. With more understanding of the effects of signs, designers can help to create the image of the cityscape.

Signage has been a part of urban life since ancient Egyptian and Babylonian market places (Larwood and Camden, 1866; Tocker, 1969). When goods could not be seen, merchants used a representative object to symbolise it or its function. The ancient Romans displayed these symbols as pictures on a signboard. During the early fourteenth century, many European cities mandated that signs be displayed on all store fronts (Tocker, 1969; Wagner, 1954). Such mandates contributed to the tradition of large numbers of signs in urban areas. Commercial signage has long been a part of the urban environment since the late nineteenth and early twentieth centuries in landmark cities such as Hong Kong, Las Vegas, Amman, Damascus and Karachi. Here giant signs, billboards and large opaque signs have become important types of commercial signage.

Choosing a sign requires a consideration of aspects such as the size, type and placement of a sign and the space it will occupy. Architecturally all signs should be

integrated into their surroundings in terms of size, shape, colour, texture and lighting so that they are complementary to the overall design of the buildings and are not in visual competition with other signs in the area (Figure 2.1) .

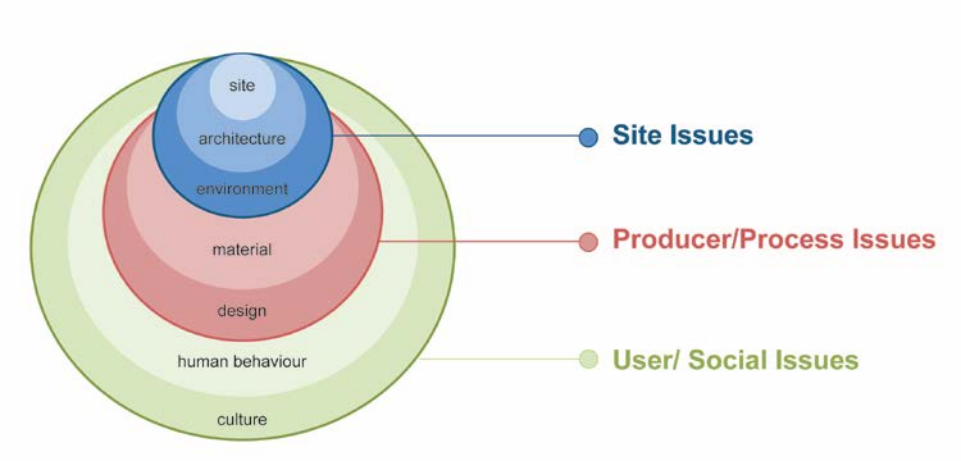

Figure 2.1, an application of knowledge to a particular space.

Sign designers are accused by architects of not integrating their signs into buildings or locating them in suitable places, and developing signage that is not effective and even invisible (Waller, 2011). Though often part of the landscape, too many signs have not been integrated or balanced with their surroundings. Waller (ibid) referenced Smitshuijzen (2007) comment:

> Architects perceive signage as an assault on the aesthetics of their creation and as an insult to the self-evidence of their spatial design. A lot of them carry an almost sacred but entirely unfounded belief in the functionality of their "wordless" buildings (p26).

Sims (1991) comments that signs are seemingly small environmental details, but essential to our understanding of the increasingly complex built environment. Importantly, they are fixed, semi-permanent impositions. Because signs have different functions and purposes, they also create different effects. These effects can be positive, but can also be negative when a sign is erected in an inappropriate location.

Signs can play a positive role in a city: they can be employed to create a corporate identity, and can also be used to link buildings and spaces together visually. Signs are indisputably an integral part of the visual identity of the city (Claus and Claus, 1971; Sims, 1991; Follis and Hammer, 1979) and can help to create a recognisable, distinctive public image which is necessary for the survival and growth of institutions within a city.

> New commercial zones have been introduced and old ones expanded and a number of streets in residential areas have been redesignated as commercial spines. The absence of clear sign regulation enforcement has given businesses and retailers a licence to compete in placing signs of different shapes and sizes in a chaotic and competitive manner (Abu-Ghazzeh, 1996, p257).

Manelker and Ewald (1977) identified both the intimate and pleasant appearance of certain signs and the visually overloaded and unappealing appearance of many streets in the United States. Nasar (1997) researched the way in which the urban environment is perceived in cities, confirming the dislike of commercial strips and retail signs and also that people most often cite signs and billboards as the physical elements that most detract from an integrated appearance.

The extent to which signs can have a positive role depends on the designers' knowledge and awareness when taking up the creative challenge of developing signs as objects of beauty and utility that can contribute to their environment. It is incumbent upon the signage industry to provide a more comprehensive level of service to clients. This will require the greater involvement of sign designers working with sign manufacturers in the whole design process (Sims, 1991).

Effective sign design involves the interplay between aesthetics and function. Uebele (2007), a German sign designer, states that architecture owes a debt to

graphics, since typography and architecture impact upon each other. Most buildings have signs and, therefore, a dialogue is to be created between the sign, the architecture on which it is located and the surrounding environment. This dialogue between signage, architecture and environment creates a new unity and wholeness and, in this way, signage should be a positive improvement upon existing buildings and landscapes (Wright, 2005).

Positive, creative sign design requires the design process to be informed by both visual communication skills and technical knowledge of appropriate materials, methods and technologies. Having such a breadth of knowledge about all aspects of the subject enables the designer to understand the physical, psychological and perceptual factors involved in sign design. Waller (2011) highlighted this knowledge by stating that designers will be familiar with the concept of affordance, a psychological concept that influences both architecture and information design. The word describes the ability of an environment or design feature to communicate its function and encourage a particular user response. In his article Waller (ibid) added that some genres may not have good qualities of affordance but they work "because the user is literate (that is, has learned their conventions)" (p2). Designers should focus on the work related to elements of design practice rather than design decision making which occurs through other environments.

Through our perceptual processes we create a sense of place, i.e. a relationship between a sign and a building within a specific environment. The character of the cityscape, along with the design of its buildings, creates a human experience. Through experience and perception we create our own image construction of the urban environment. That image is the mental essence of people, landscape, buildings and

open spaces (Abu-Ghazzeh, 1997), for example, our perceptual impression common idea of Hollywood is impacted by our perception knowledge of the over-sized Hollywood sign that towers over the city from the Hollywood Hills. The size and position of the sign suggests power, money and 'larger-than-life' characters' lifestyles. The sign has an association with film-making, fame, and money. It is also a landmark, representing Hollywood to the world and attracting tourists.

Further, commercial signage can be used to form part of the 'identity' of a product or place, being deliberately created by artisans to illustrate and project a desired personality. Signboards are, therefore, culturally relevant, since they reflect the aspirations of a group of people, the proprietors of a commercial enterprise, and the aspirations of city planners seeking to create the 'character' of a place. This is why individual signs are needed. Therefore, there is a degree to which the municipality cannot and should not regulate all signs, as uniformity is not necessarily attractive.

Abu-Ghazzeh (1996) states that urban centres in Jordan are experiencing continuous growth in size and complexity. With the absence of sign regulations and other forms of environmental protection, sign designers did not have to meet any regulations and were free to follow their client's brief and develop commercial signage which was large and bold. It may be argued that designers should have considered the effects of their signs on the buildings and local environment. This research will argue that the lack of attention given to wider environmental factors lies in the education of the designers.

Designers' awareness of sign regulations can guide them in producing a sign which abides by the legislation. Such a sign may be conventional. In a highly regulated system all signs might look very similar and not stand out from one another.

In such cases the signs lose their advertising value. Regulations alone will not create effective signage without a designer who can creatively apply his/her knowledge of physical elements of sign design (including size, placement, materials and structure), graphic elements of sign design (including layout of the message, colours, lettering, shape, symbolism, harmony, and daytime versus night-time lighting conditions) and regulations (Canada Business, 1999).

Commercial signs are important elements of Amman's urban landscape; they convey messages and determine a corporate identity in complex environments (Abu-Ghazzeh, 1996; 1997). These signs act as social landmarks, and serve as a means of cultural expression. Mathur (2005) declares that signs take centre stage in cultural transformation. However, signs can also be used to retain cultural character and difference and may often be unique to a particular shop and location.

Unfortunately the lack of signage regulation enforcement, together with commercial and economic development resulting from the rapid rise in the urban population has given rise to commercial signage which is recognised as a source of visual pollution and clutter by the Greater Amman Municipality (GAM). The sign industry and designers could make the most of their potential urban spaces as creative design tools and principles for enhancing a sense of place. Through their training and knowledge, and using literature and urban case studies, they could avoid the negative affects produced by signage in the urban landscape.

2.5. Amman's signs

In Jordan, academics Al-Asad (2004a) and Abu-Ghazzeh (1996, 1997) and local journalists have expressed their opinion that commercial signs create visual pollution, chaos and confusion along the busy streets of Amman. Although some commercial

signage controls did exist prior to 2007, they were not enforced and as a consequence the streetscape was harmed by shop fronts and window displays out of keeping with the scale and architecture of the commercial districts.

These commercial districts were ranked by GAM in 2006 as the worst in terms of appearance as the signage created visual clutter and affected the beauty of the city. However, even before this, Abu-Ghazzeh (1996) had conducted research in this area of visual clutter, which was apparently unknown to officials working later on. Internationally, issue of the visual clutter produced by signage has been analysed by researchers who explored the negative impacts that disordered commercial signage can have on the appearance of commercial street façades. (such as Passini, 1992; Nasar, 1988a,b; Herzog, Kaplan and Kaplan, 1976; Rapport and Hawkes, 1970; Portella 2007b; Klein, 2000; Nasar and Hong, 1999) have focussed on different aspects of this problem.

Visual overload results from an excessive number of signs plus the high variation of their physical features such as size, colour, proportion, location on buildings facades, and lettering style. When too many commercial signs are placed side by side, the result can be chaotic (Portella, 2007b; Nasar, 1988a,b).

Signs may be percieved as cultural objects reflecting the image of the people who occupy the places in which they are located. Academics Al-Asad (ibid) and Abu-Ghazzeh (ibid) have witnessed and discussed the large number of signs found in Amman's landscape. However, apart from these authors there has been a lack of studies dealing with signs in Jordan, and it is necessary to study the wider meaning of signs in the urban landscape.

The prominent representation of signs in both popular and artistic domains suggests their importance in Amman's culture. Abu-Ghazzeh (1997) highlighted the cultural role of signs in Amman and their impact. His studies focused on ordinance, the role of perception and importance of design in its impact on the attention of people.

In his opinion, signs should be designed as a means for citizens to take part in their society, because signs express the culture in which they are found. Signs can be used to make statements about the community and designer. This research will develop these themes by emphasising the of role of design and designer training and the competencies required to practise sign design.

Abu-Ghazzeh (1997) highlighted the aspects of signs that city planners and designers should consider such as the functional and perceptual characteristics of signs, the way these are displayed on facades and how they can change the image of these buildings and the surrounding city. He concluded that signs should provide easy, pleasant and balanced communication between the city environment and citizens. In order to create this sense of cohesion and provide an effective means of communication, he concluded that signs must be legible, expressive and visually represent and enhance the character of a place. If a place is to be memorable, it should have certain perceptual attributes, including such things as clarity, differentiation, uniqueness, structure and form. User familiarity with particular streetscapes and the symbolic meanings attributed to buildings should be considered as both factors influence user perception and evaluation of commercial streetscapes (Portella, 2007a).

Abu-Ghazzeh's research (1996) did not address the designer's role in integrating signs with the environment. Instead, he was interested in developing a

framework in which to create effective regulation of the signage in Amman. In his studies (1996, 1997) he explored the complex relationship of people, signs, and places to understand the elements of this relationship. The studies focused on the distribution of signs in evolving landscapes which had been subject to many influences. His studies showed that clutter and confusion are failures of design, not inevitable attributes of urban signage. Earlier, Tufte, (1990) argued that both can be alleviated through the implementation of good sign design. Whilst trying to understand the existing situation of urban streets does not show the best use of signs, it does show what can happen in an absence of enforced regulation. To develop policies for sign distribution that speak to people, it is important to first understand this often disregarded resource.

According to Abu-Ghazzeh, sign design should be based on an understanding of visual perception. He added that the fundamental principles of how people see things while walking are well established. Seeing takes time, and there are limits to the details that can be discerned as well as the size of the visual field that can be observed. Kelly (2003) stated that the importance of high visual quality is emphasised because it guarantees safe, better behaviour from users and can create interaction between people and local authorities in order to achieve a better sense of place. Portella (2007b) described the visual character of commercial streetscapes in terms of design features such as building facades: architectural style, number of storeys, rooflines (hip roof, flat roof, etc), and building symmetry. The variation (high or low) of these features in commercial street facades can be used to calculate the complexity of these settings. The need to consider these issues needs to be included in the training of sign designers.

Portella (2007b) noted that legibility and imageability increase user perception of personal safety and allow people to become more familiar with their surroundings. Shop owners might desire legible and imaginable commercial city centres because shoppers may be able to find their stores more easily. Mental references make it easier for people to find their way around; anchor stores often act as references within the townscape, as do shop fronts and window displays. Good legibility and imageability create a memorable experience which brings together commercial signs and buildings in an ordered relationship together. The relationship between commercial signs and buildings influences the order of a streetscape. The perception of order and chaos can vary between users from different places; it is subjective. It is an effective sign inside its environment that allows accurate perception and balance.

Some commercial signs fail to become accepted components of the city and create adverse effects on amenity values, on road safety and add visual clutter. Such signs, particularly hoardings, are not considered necessary for the efficient functioning of commercial activity within the city (Abu-Ghazzeh, 1996 and 1997; Sims, 1991; Claus and Claus, 1971). Certainly signs which adversely impact upon amenity values may also reduce people's appreciation of an area's pleasantness and aesthetic coherence. Adverse effects are caused not only by the proliferation of signs but also by poor design, colour, location, size and placement (Manelker and Ewald, 1988).

Although members of the public and sign owners may have opinions about a sign's aesthetics and effectiveness, the responsibility for commercial signage (such as the design and location) lies with many stakeholders. For example, Sims (1991) acknowledged the role of the Municipality in organising and controlling signs through

regulation. Follis and Hammer (1979) clarified that rules and regulations refining and limiting the erection of signs are necessary to ensure both their effectiveness and to prevent adverse effects resulting from inappropriate design or location.

An individual sign requires clarity and legibility to achieve a positive outcome and convey its message. Many signs in Amman are ineffective at attracting attention or displaying important information because of poor design (Abu-Ghazzeh, 1996) even though factors such as typography, contrast, symbols and location have been organised into standards for sign design (Passini, 1948; McLendon and Blackistone, 1976). Sims (1991) documented creative solutions for materials, techniques, and identity creation.

Local authorities are able to control signage clutter and pollution through special mechanisms such as sign ordinances, design guidelines, and design reviews. The designer has a responsibility to consider the façade when creating a sign in order to integrate it with the overall structure and produce a unified architectural statement. Portella (2007b) noted that facade articulation refers to saliencies and re-entrance on a physical volume or bulk. He stated that to increase the user's attention to the sign, solid planes should be converted to concave or convex shapes, where parts of a building are extracted or added to its original shape. Arcades, vestibules, balconies and other architectural elements can reduce the compactness of a building, and consequently increase articulation (Stamps, 2000; Ching, 1996; Holgate, 1992; Nasar, 1988a; Clark and Pause, 1985).

The regulations imposed by Greater Amman Municipality on the size, height, illumination, and the content of on-premise commercial signs were made at the request of local planners and special interest groups. Their discussions did not seem to

be informed by Abu-Ghazzeh's research at any stage. It is argued that restrictive regulations aimed at improving the commercial environment through aesthetic enhancement, which, may be linked to fostering tourism (Taylor, 2005). On the other hand the signage needs to be designed to complement the surrounding environment and local culture dealing with differences as part of the physical design principles.

This research specifically addresses the required competencies of the designer in creating effective signs. The quality of Amman's cityscape depends on its architectural identity and the way it is perceived by residents and visitors. Unfortunately, until recently, many signs in Amman obscured building facades and created a sense of visual clutter. Portella (2007b) outlined two issues relating to disordered streetscapes:

- the conflict between the design of commercial signs and aesthetic composition of building facades,
- the visual overload provoked by excessive numbers of commercial signs, plus high variation of their physical characteristics.

He added that a number of factors should be taken into account when designing signs such as proportion, location, shape, direction, lettering size, lettering style, colour, chromatic contrast between letters and sign background, and segregation between figure and sign background by size proportion. Morris *et al.* (2010) highlighted the role of sign design in designing for the place. Designers must respect the fundamental components, composition, and character of the building.

Amman's Master Plan now provides a clear direction for sustainable development for the next 20 years. This plan will control signage through planning

legislation and well-designed commercial signage, and will reflect the wider cultural changes in Jordan.

2.5.1 Factors that affect signage in Amman

During the last two decades, Jordanian architects' interest in nationhood and identity have faced a conflict with the central tenet of modernism in Amman and the irrelevance of the past for the problems of the present. This has been brought about by recent architectural graduates, trained in Jordanian universities, struggling to find meaning in their surroundings (Daher, 2010). Although no single paradigm has emerged, these new scholars are returning to "Islamic" architectural traditions. They seek a rich architectural heritage that never really existed in the city (Pilder, 2011). Architecturally and culturally, Amman struggles to balance a respect for the cultural diversity of the population whilst transforming itself into a modern city. Architectural variety appears everywhere and is reflected in the signage design, shape and materials.

Amman is emerging as a metropolis that is active and vigorous on the economic, financial and cultural levels. However, the directions that the authorities will take in addressing these various challenges will greatly determine the manner in which the city will grow. If the current course of development in Amman is left unchecked, the city will probably join the ranks of those metropolitan centres in the developing world where daily life is becoming increasingly difficult and unpleasant.

Part of the development requires a signage system that can meet specific needs and target certain areas. A signage system that considers the placement of signs in conjunction with other amenities can create mini destinations or places within a place. Elements that are triangulated in the signage system will have a bigger impact

together than they would separately, and allow users to focus on several needs at the same place (Abu-Ghazzeh, 1996). When they are well-located, signs can help to create a comfortable and social place where people can relax and spend time.

Abu-Ghazzeh (1996) stated that sign regulation requires the careful balancing of communication needs with streetscape aesthetics and traffic safety. Thus, there is no ideal system of sign regulation. Each society and even each community within a society may address sign control in a different way. Clearly, Amman is a mix of different cultures and different suburbs. City-wide regulations may act against the preservation of cultural identity and diversity, as depicted in signage. Abu-Ghazzeh (1996) highlighted the purpose of the regulations in maintaining and enhancing the aesthetic environment and minimising the adverse effect of signs on the public and public property.He called for a signage regulation system which balances the aesthetics of a building with the owner's need to deliver a message to the audience. Such regulations should be flexible enough to accommodate different styles and encourage originality. Abu-Ghazzeh (ibid) stated that the "signage system can be restrained by performance standards. It needs to provide functional flexibility and encourage variety and orginality"(p260). The role of sign designers should encompass the harmonisation of the signs with the architecture.

Sign regulations were first introduced in 1960, and were revised in 1985 and 2006. In all cases they are limited to vague descriptive requirements of sign characteristics. They are not clear to the users and do not make distinction between localities, as in land use densities, setback regulations, use of building materials, architectural character and historical significance (Abu-Ghazzeh, ibid). There are no well defined ordinances, such as the percentage of a building façade elevation that can

be covered by signs, projection angle, colour, shape, material and type of illumination used. These regulations may be enforced by the police of Geater Amman Municipality (GAM). In developing the regulations GAM did not establish clear standard or specialised review panels, so those who evaluate the suitability of a proposed design may not be have the training to judge it.

. Abu-Ghazzeh (1996) ended his paper by saying:

> Quantified performance standards and explicit specifications cannot substitute for a talented designer, a responsive client, and an alert government body - all of whom understand the character of their city - working through an official community process that permits competent aesthetics to control the use of signs, case by case if necessary. (p263).

Therefore, he (1997) proposed signage display criteria in which signage should be restrained in terms of character and dimensions, they should complement the character of the location and be situated entirely within property boundaries or mounted flush to the walls, fences, or gates. All signs ought to be consistent with the highest graphics design standard. Abu-Ghazzeh (1996) quotes the 1985 regulations Article 26:

> A sign should respect the aesthetic quality of the street; design content should not contradict national feelings, public moral or general law; a sign should not cause harm to the building on which it is displayed (p259)

Abu-Ghazzeh (1997) listed the factors which affect commercial signage in Amman:

- a lack of a sign regulation system that provide clear, easy to read, directive signage to enhance the environment
- The variation of building facades in the same district
- The unity produced by the stone construction which is easily damaged by signage.
- Inappropriate sign display and location.

- The lack of environmental awareness of designers and clients.
- Lack of attention to the scale and character of the building and its design components. There is no coordination within each development with respect to dimension, proportions, colours and spacing.

Claus and Claus (1971) stated that consumer convenience and business efficiency depend to a large degree on signs to provide information about available goods and services. They commented further (1976) that many retailers love to place their signs to attract automobile-centric consumers.

2.5.2 The sign industry in Jordan

No documentation exists recording the evolution of the sign industry in Jordan. The seeds of sign-making were sown over 70 years ago, when in 1946 Jordan became an independent sovereign state officially known as the Hashemite Kingdom of Jordan. Calligraphers (sign-writer) dominated the signage industry using their knowledge and understanding of the rules and beauty of calligraphy.

From 1950s a new middle class of educated Jordanians emerged providing a growth in the economy and much needed stabilisation. As commercial and retail business expanded so did the need for signage. Calligraphists such as Sabanikh, Kayal, Tabbal, Jokhi, and Yassen became known for their excellent work and production, and their sign-making skills increased in demand as the economy increased. They were joined by sign makers from Palestine, Lebanon and Syria who immigrated to Jordan. Calligraphists (sign-writers) provided good service to the country's retail, financial and industrial places of commerce; sometimes making signs in situ to the client's and the environment's needs.

In the 1970s signs were still made from raw materials such as metal, leather,

cloth, and paper. The material chosen was largely determined by the function intended for the sign. With technological innovations the range of materials used was expanded e.g. to include plastics and fluorescent lighting.

Sabanekh and Jokhi stated in informal meetings with the researcher that the sign production process in Jordan has evolved rapidly since the late 1980s to encompass new and developing areas of expertise including industry, illustration and architecture. It has become a competitive industry, with 617 establishments working in the production of signage (Table 2.1), 500 of which are in Amman. The table below shows the rise in the number of companies between1953-2011. This information was obtained from the website of the Ministry of Industry and Trade (MIT), Jordan.

Table 2.1. 863 Sign maker's establishments registered at the Ministry of Industry and Trade, Jordan, dated from 1953 to 2011. (MIT, 2011)

Amman's advertising industry also developed rapidly with the expansion of the economy and developments in new materials and technologies. On-premises neon signs common in many parts of Amman were replaced with plastic signs, representing the promotion of the disposable product over the durable.

The use of metal (especially aluminium and copper) as a three-dimensional material flourished at the end of the 1980s and beginning of the 1990s. In many instances this meant the loss of beautiful neon signage. The sign industry offers on-

premise illuminated and non-illuminated signs of many types, directional secondary signage, interior signs, façade and other architectural graphics helping to identify the place of business. Members of the sign industry used creative artistic design skills and a steadily increasing variety of sign materials to enhance creativity in sign manufacture and a basic understanding of the important relationship between a business and its sign.

While most sign industry activities are employed by a few large companies, the sign industry includes several hundred small manufacturers spread throughout Amman. These small shops are able to create a single sign or a small number of signs to meet the needs of their clients. The expansion in the sign industry has affected Amman's appearance, and the competition between sign manufacturers has increased the number of signs on the building facades in Amman. This in turn has affected the cityscape which reflects the poor taste of some manufacturers and the use of low-cost materials. This situation has urged GAM to consider the large numbers of poorly located signs as a main source of visual pollution and clutter. Hence a resolution was passed by GAM ordering the removal of all signs on the roofs and upper floors of the building facades.

The increase in the use of computer technology from 1991 increased both the rate of production and the number of establishments working in the field. Computerisation undermined the role of professional calligraphers and paved the way for the entrance of computer and technology users. This group has contributed hugely to developments in signage in Jordan, where they employ the latest technology and modern advances in engineering (vinyl cutter, digital printing, CAD engraving, CAD Router) to produce effective signs. Looking to the future, some companies have

seized upon 3D media as a growth opportunity.

Such developments have impacted on the sign design process. It now requires a combination of designers and manufacturers to create a sign (Richmond, 1994). The transition to a more technological way of working has impacted upon many workers. New technologies have clearly enabled the sign industry to work faster and more efficiently, and have facilitated flexible and remote working. However such innovations require additional training.

The sign industry members were able to establish their professional society in 2007. However, this society does not have an educational or research arm to support training, sign industry local market, neither does it have any form partnership with universities to establish educational programs for sign design and making.

2.6 Signage systems and type of signs

A signage system refers to signs as a group: the design or use of signs, symbols, or words, whose function is to provide directions, identification, information, orientation, warnings, regulations, or restrictions. A signage system is considered to be a visually oriented information system, consisting of signs, maps, arrows, colour coding systems, pictograms and different typographic elements (Sims, 1991).

This research is concerned with the way in which commercial signs on building facades in Amman are perceived and designed, their use in the identification of businesses, attracting customers and providing sense of place and context in urban environment. Signs give information about business location and index the environment to enable people to find places. Indeed, until recently, Amman did not

have an integrated address system so people relied on commercial signs for navigation.

Calori (2007) and Gibson (2009) mentioned that in 1970 a group of designers found themselves designing graphics for a coordinated group of signs rather than for print, and because they worked in architectural offices, they termed this architectural graphics. They realised that there were significant differences between this sort of design and print design. The new design practice encompassed the planning and communication of information on 3D objects in the built environment, which is far more complex than designing 2D printed objects.

Sims (1991) stated that signage is now regarded as part of environmental graphic design, which replaced the term ‘architectural graphics’, for two reasons. Firstly, architectural graphics were viewed as too limiting, in that this form of graphic design is geared towards non-architectural open spaces, such as roads and parks. Secondly, could be confused with the drawings architects create to document their building design.

A signage system is an important part of an organisation’s corporate identity as it is the first impression that people receive. The system is created by the integration of characters, colours, materials and fonts to appropriately convey the corporate culture. Uebele (2007) stated that people can tell a lot about a company by its sign and lettering, it can send out a friendly signal that accomplish more than simply giving an address. Such a system is described in French by the word "signalétique", which has been adopted by the Swiss and the Germans as Signaletik, emphasising the active signal more than the sign itself.

A signage system is much more than just a set of sign posts and symbols. As well as its practical application, it helps to create an identity for a space and can add decorative flair to any built environment. Uebele (2007) draws on his own design experience to explore signage as a point where graphic design and architecture come together. Designing a signage system is a practical application; it helps to create an identity for a space and can add decorative flair to any built environment. In the 1970s the term “environmental graphic design” was used to describe the close relationship between architecture and communication design, followed by the formation of the Society for Environmental Graphic Design in direct response to the growth of the profession.

It is difficult to categorise signs. Part of their attractiveness and interest lies in their variety of type, nature and function. Ledermann (2005) stated that most signs in public spaces cannot be assigned to a single category or function. They can be interpreted on different levels, e.g. for place identification, direction, and promotion. Follis and Hammer (1979) argue that signs have always been used to identify, direct and inform. Today, commercial signs can also be used to identify indoor and outside territories.

Signs May be differentiated is based on the material, placement, function and the process of mounting. A well-designed sign serves to visually identify and unify a site. They can have a place-making role, creating a unique identity and sense of place, thereby effectively creating a brand image in environmental form. Sims (1991) grouped signs into six categories in terms of their functions as shown in Table 2.2.

The validity of these categories have been noted by researchers such as Claus and Claus, 2001; Calori, 2007; Gibson, 2009; Smitshuijzen, 2007 and McLendon and

Blackistone, 1976 and have not felt the need to add additional categories.

This research focuses on commercial signage which falls into the identification category. Commercial signs may be used to identify a place, product, service, shop, facility, company, establishment or building.

Table 2.2. Categories of signs (Sims, 1991)

2.8 The sign designer role and design process

This section will focus on the definition of the term ‘sign designer’, and explore its origins; who plays the role of sign designer and his relation with environmental graphic design. This section will introduce the design process that a sign designer adopts in his work.

In this research the term ‘sign designer’ is used to describe the person who is responsible for making design decisions, an individual who is designing a sign for a small shop, or a professional designer within a team with responsibility for designing a signage system (Cogent, 1999).

In Jordan, a graphic designer is principally the person who occupies this role.

However, much professional sign work is also undertaken by architects, industrial designers, interior designers and technologists. Gibson (2009) and Sims (1991) stated that designers from a variety of disciplines identified the demand for signage. These designers were architects, interior designers, communication designers and product designers.

Sign designers need a wide range of skills to interact successfully with the various demands of the projects and other disciplines. The designer should consider signage as an integral and important part in every phase of the design of the built environment, keeping in mind that signage can vary in size and complexity.

The designer can be hired by a diverse range of clients who need a sign or signage system. Each of these projects has their own challenges. Work include the development of designs for individual signs, signage for multiple locations, branches or franchisers operated by one owner, wayfinding projects, open space signage, or building signage.

In Jordan, along with the graphic designers, architects, and interior designers that practise sign design, are those who have received training on design software, such as Adobe Illustrator and Photoshop but who practise as design professionals (Abu-Awad, 2008a). They are involved in designing the sign content and shape, and sometimes deal with the client design brief. Such designers have their own areas of technical expertise but may not have been taught the specific underpinning skills necessary to design signs. This may be the reason behind some poor signage. Although sign design appears to be deceptively simple, it can be a complex problem requiring distinct and diverse skills. Sims (1991) states that “signing skills are often assumed to be an extension and application of graphic design” (p12). This statement

confirm the research argument that sign design is linked to graphic design and it requires different skills.

Increasingly architects and sign designers are required to work together and their work must be complementary. Both sign designers and the specialised sign industry are interested in environmental graphic design and, indeed, must evolve to incorporate concepts of environmental graphic design in their work.

An important part of a sign designer's role, like all other designers, is team work which requires the designer to work with others in a creative and collaborative manner to solve a visual design problem (Sims, 1991; Calori, 2007, Gibson, 2009). However, many aspects are the sole responsibility of the designer, for example, creating the initial concept, liaising with a photographer and producing specifications for the sign manufacturer.

A graphic designer working on any 2D print or website design would prepare specifications for the work that will be printed or published online, but it is not the same in sign design (Doordan, 1995; AIGA, 2008). Here the role of the designer becomes wider, as physical elements need to be considered such as the size of a sign in relation to the building, its placement in relation to the building and the environment, choice of materials. The designer needs to be aware of the sign as an architectural embellishment which is strongly related to the materials used for construction.

As part of the designer role (Gibson, 2009; Calori, 2007; Sims. 1991; Uebele, 2007), a sign designer also needs to know about:

- types and purposes of signs

- issues of legibility and visibility
- technology and media used in sign making
- internal and external illumination of signs
- methods of construction and types of support for signs
- health and safety, environmental and legislation requirements.

Moreover, often the physical elements are constrained by municipal or state legislation, such as that the number of signs or the proportion of sign footage allowed on a building. Such regulations acknowledge the effects signage has on the attractiveness of a building (Claus and Claus, 1971).

Like all other design disciplines, true creativity in sign design comes from the ability of the designer to look at a problem from a different angle (De Bono, 1976, 1990). He (1976) refers to solving design problems through an indirect and creative approach. This can be supported by four types of thinking tools:

- Idea generating tools designed to break current thinking patterns—routine patterns, the status quo
- Focus tools that are designed to broaden where to search for new ideas
- Harvest tools that are designed to ensure more value is received from idea generating output
- Treatment tools that are designed to consider real-world constraints, resources, and support.

In addition, this creative approach “PO thinking” ‘provocative operation’ could provide a basis for finding creative solutions to problems, rather than proceeding on traditional assumptions of what is aesthetically pleasing and change the problem state and enhance the quality of the visual environment. It is a valuable tool. It motivates designers towards an effective way of thinking; to stop, think and challenge (De Bono, 1990). It is potentially a key competence.

Those processes could be applied by the sign designer to propose a proper solution for the problem they are dealing with. Focussing on the Figure 1.3 which illustrates the application of knowledge will highlights key role of the designer and intermediary between the client wishes and the physical design of the sign, location, architecture, human factors, and environment. A process designer use to reflect on assess and judge the assumption underlying their own and others ideas and efforts, to develop ideas that are effective and worthy of further elaboration

2.8.1 Sign Design Process

The resources for design creation exist in the carefully trained performance of design elements, which are achieved by proper training, experience and ultimately personal interpretation that successful solutions provide to suit, develop and corroborate our surrounding environment. Sanders (2006) stated that such method has been evolving new roles, leading everyday people to become co-creators, who recognize creative skills and potential in order to generate concepts and valid solutions, combining their knowledge and experience on the subject or area of intervention. The elements of sign design practice are positioned in the task of resolving a wide variety of functional and aesthetic needs into a consecutive, fulfilling structure. The effort to resolve the varied needs of commercial sign design makes use of specific design elements and combines

these with the physical properties of materials and media and related human factors and combines these varied elements into a coherent, whole discipline.

When starting a new design project, there are steps to follow that will help designers to achieve the best results, rather than jump right into a design software program to create a final version, Designers may save time by researching the topic, finalizing content, starting with simple sketches and getting several rounds of approval on designs. Different designers manage the process of design in different ways. But there are similarities and shared approaches among them in the way of mapping the design process.

In graphic design, this process may be characterised as a 'double diamond' design process model developed through in-house research at the Design Council in 2005. It provides an elegant graphical way of describing the design process. Divided into four distinct phases, discover, define, develop and deliver (Figure 2.2), it maps the divergent and convergent stages of the design process, showing the different modes of thinking that designers use. This process may include false starts, meanderings and solutions that do not fit the design brief.

Figure 2.2a. The double diamond diagram, Design Council (2005)

Figure 2.2b. The double diamond diagram,

The first quarter of the double diamond model marks the start of the project. This begins with an initial idea or inspiration, often sourced from a discovery phase in which user needs are identified (Figure, 2.2b). The second quarter of the double diamond model represents the definition stage, in which interpretation and alignment of these needs to business objectives is achieved. The third quarter marks a period of development where design-led solutions are developed, iterated and tested within the company. The final quarter of the double diamond model represents the delivery stage, where the resulting product or service is finalised and launched in the relevant market.

The process of design as related to Signage Systems may not be far from graphic design, no matter what type of sign is required, an individual sign or a signage system, the designer will play the same role, being located between the problem and the solution (Calori, 2007); In this position the designer has to:

- assess the client's problem
- apply creative skills
- synthesize a solution
- communicate the solution to the producer
- oversee production of the solution
- evaluate the effectiveness of the finished product.

Calori (ibid) defines the phases of the design process in three main stages as shown in Table 2.3, pre-design, design, and post-design activity.

Table 2.3. The phases of the design process include pre-design, design, and post-design (Calori, ibid, p22).

A successful design process requires a good relationship between the designer and client. This will lead to successful analysis, definition and clarification of the problem and its solution. Sims (1991) states that the client may be in an undesirable position when it comes to choosing a designer or a design agency if s/he has no means of investigating the designer's work and reputation.

In Amman, the client may face a high risk choice. As the signage industry has flourished, designers with no training or experience have set up as specialist sign designers. The client needs to know that the designer not only has flair, technical competence and experience but also that s/he will understand the all requirements and have the capability to undertake all aspects of the design. This includes being familiar with all the job constraints to be able to design the sign or sign system, or recommend an appropriate item to the client (Sims, ibid). When designers create their design they will pursue implicitly or explicitly steps or techniques for scoping, analysis, idea generation, and implementation. This makes assumptions about which design questions can be separately answered, the priorities and reliances, and how best to answer them. Understanding the design process is part of the core competency areas that designers need. A sign designer must have a solid view on the end user of the

sign, architecture, and environment, and know about the latest technological developments in the industry. Sign designers should be aware what influence the design might have in society and how to position the sign in the space.

Gibson (2009) organises the design process into three phases; planning, design, and implementation as shown in Table 2.4. This covers the gathering of information using different methods such as site survey, interviews, focus group and surveys to understand operational requirements and other demands. The analysis of the collated information will lead to a clear strategy that provides the successful signage. In some cases the electrical power requirements, structural issues and architectural integration will need to be coordinated between the architect and engineer.

For Gibson, the design process usually starts with gathering of the data and its evaluation, investigating the location; it starts with diagramming and mapping the elements of place. Designers identify and diagram the major areas and destinations, and the pathways and arteries that run among them. From these findings designers propose the solution, decide the sign types, and develop a location plan for them. Then they look at what goes on the signs in terms of messaging and graphic elements (logos, colours, fonts, symbols), and what the sign structures should look like. They study the visual identity of the place, its image, its architecture, its street furniture, and landscape, and consider how signage should relate to these.

Table 2.4. Gibson's phases for the design process (ibid, p34).

Table 2.5. The phases of the design process as perceived by McLendon and Blackistone (1982).

The phase of the design process that been introduced by McLendon and Blackistone (1982) is not much different from Calori, 2007 and Gibson (2009). A design intent drawing will be created for the approved sign types, and final layouts created, and elevation details to define design intent. Sign specifications need to be

written and design intent standards described. In the implementation phase, identify and contact qualified sign fabricators will take place and then in the construction administration stage, the design intent documents for prospective bidders will be clarified McLendon and Blackistone (1982).

Follis and Hammer (1979) identify different phases: planning, design, documentation, and bidding and supervision. Essentially these are identical to phases shown in Tables 2.3, 2.4 and 2.5. Regardless of what forms or methods are finally chosen, designers cannot function without utilising a method for organising the overall process of developing a sign system (Poovaiah 2007). It is clear that this requires dividing the process into phases of work and establishing time schedules to show when each phase should be finished.

Follis and Hammer (1979) affirm that the designer must be ready to consider issues such as the aesthetic relationship between the architectural environment and the signage, which includes problems of sign shape, size, colour, material and location. Designers need to understand their client's goals and the needs of the end user, and to study the unique signage challenges presented by the specific site. This can involve site visits and analysis. The design process is based on the changing in market requirements and client expectation. These changes include a demand for sustainable design solutions that influence material selection and scale.

The signage design process differs from graphic design in the implementation of design process, mostly in stages inside the phases, i.e. understanding the design problem for investigation, mainly usability factors, bidding , fabrication, installation, human factors in architectural environment, and materials. The design models presented may deal mainly with wayfinding, which is beyond the scope of the study,

but some elements of this can be applied to commercial signage.

2.9 Graphic Communication

This section discusses the relationship between sign design and graphic design as part of graphic communication which uses the technologies of printing, publishing, packaging, electronic imaging, signage and their allied industries. The Graphic Communication Council in the US defines it as:

> The processes and industries that create, develop, produce, and disseminate products utilising or incorporating words or pictorial images to convey information, ideas, and feelings. Graphic communication products facilitate learning, enjoyment, motivation, and commerce (Graphic Communication Council, 1999, p1).

This definition was supported by associations and organisations such as Icograda, ADA and AIGA, which also endorsed and called for a proper Classification of Instructional Programs Codes (CIP Codes) for Graphic Communications. The Classification of Instructional Programs (CIP) is a taxonomic coding scheme of instructional programs. Its purpose is to facilitate the organization, collection, and reporting of fields of study and program completions. The Graphic Communications program is designed to prepare students for employment in various occupations such as such as: advertising, graphic design and photo-imaging. Kalman (1991), Hollis (1994) and Jobling and Crowley (1996) agree that graphic design is a form of communication; since it is a medium of conveying messages, ideas and meanings. Graphic design is also often referred to as visual communication or communication design. Hollis (1994) describes graphic design functions as identification, information, and presentation / promotion.

Therefore, signage has the same functions and contains elements of text and image that convey a message to promote or create a brand or identity. The creation of

signage involves the intelligent arrangement and use of illustrative elements (Arntson, 1993). It includes the process of creating, producing, and incorporating words and images to convey data, concepts, and emotions that may enhance learning, enjoyment, motivation, and commerce. Graphic communication therefore provides an essential part of signs, billboards, posters, displays, and banners. Graphic designers encompass all phases of the graphic communications processes from origination of the idea (design, layout, and typography) through reproduction, finishing and distribution of two- or three-dimensional products or electronic transmissions. Various methods are used to create and combine words, symbols, and images to create a visual representation of ideas and messages. Typography, visual arts and layout techniques are also used to produce the final result. Barnard (2005) explains the function of graphic design, saying that this may be approached from two directions. The first is comprised of the broad social, cultural, and economic functions of graphic design and the second the functions specific to individual examples of graphic design, such as a particular sign or advertisement. This research argues sign design education needs to include both these aspects.

Signs are a communication medium, convey a visual message and influence the way in which the message is received. They serve multiple marketing functions, playing an integral role in marketing, helping both businesses and consumers. These roles include communicating the location of the business, reinforcing outer forms of advertising as part of integrated campaign, branding the site, and enhancing store/brand image (Taylor *et al*., 2005).

Although they are considered to be a powerful tool, the extent of their influence has not been measured in Jordan. Compared to other media which require

the direct attention of the audience, commercial signs are environmental features which can subtly convey a message while creating a mood or feeling. Claus and Claus (1976) stated that it is not necessary for a person to give full attention to a sign in order to derive meaning from its presence. The public context of the message it to be more distinguished from other communication media. Signs located in a shared environment (such as a building façade) project far beyond the territorial boundaries of the site. This ability to send messages beyond the locational boundaries of a site requires the communicator to be sensitive to the psycho-social ramifications of signage. As part of the urban landscape they are the concern of all persons who inhabit or use the area. Therefore a balance must be struck between the competing interests in a shared environment so that the needs of different communities and individuals can be met.

Commercial signage, although its impact has not be quantified, is considered to be the most cost-effective and efficient form of advertising for most businesses (Claus and Claus, 1971). This is true whether the sign's purpose is to promote impulse "stop and shop", to create awareness of a product or service, to reinforce other forms of media advertising, to influence purchasing decisions once the customer has stopped, or to physically mark a building's location (Claus and Claus, 2001).

Signs play a great role as a contributor to brand equity. Keller (2000) stated that building brand equity is a main concern of companies of all sizes and types. Belch and Belch (2004) note that the consumer's perception of a company is an amalgamation of the bundle of messages they receive and contacts they have with the business. Kellaris (2010) provided an overview of the basic linkages in the conceptual framework in signage communication (Figure 2.3).

Figure 2.3. Kellaris's diagram provides an overview of the basic linkages in the conceptual framework (Kellaris, 2010).

In this the objective and subjective features of signs, contextual variables, and person traits are antecedents that combine to evoke various conscious and unconscious processes, which lead to cognitive, affective, and ultimately behavioural outcomes.

In Chapter 1, an application of knowledge to a particular space was discussed (Figure 1.3). Human behaviour forms one of the elements of the space knowledge, the above diagram shows how sign users interact and respond. Designers must understand the conceptual framework for signage communication based on the fact that signage is a visual communication tool and requires an effective visual design.

2.9.1 Visual Communication Design

Signage is part of the effective visual design that focuses on the visual qualities of every design element and provides disambiguation where necessary. It aims to create apparent visual relationships between conceptually related elements. Visual adjustment ensures that these relationships arise when, and only when, the conceptual

relationship makes it appropriate (Mullet and Sano, 1995).

Mullet and Sano (ibid) stated that effective design respects the capabilities and limitations of visual language, which concerns the primitive visual distinctions that are available in human vision, The proper visual position depends on careful visual adjustment to recompense for differences in shape and contour of the design elements.

Visual Communication Design may be defined as the communication of ideas through the visual display of information. It is primarily associated with two-dimensional images including, signage, photography, typography, drawing, colour and electronic resources. Visual communication exploits the use of graphical components in achieving communication goals and has both theoretical and practical elements, such as the use of typography, symbols, colour, and other static and dynamic graphics to communicate facts, concepts and emotions. This makes up an information-oriented, systematic graphic design which enables viewer understand complex information (Graphic Communication Council, 1999; AIGA, 1993a,b).

The theoretical part is known as visual rhetoric, which explores the way that designers use visual elements to influence audiences. This could be described as processes that rely primarily on rich visual content as the means of conveying information through words, photos, colours, shapes, and many other components. However, visual communication design explores the use of graphical components in achieving communication goals based on both critical and practical parts. The practical part of visual communication uses three elements to express ideas (Hamilton, 1970): pictures, icons, and symbols. A mixture of methods is used to

create and combine words, symbols, and images to create a visual representation of ideas and messages.

Frith Kerr, director of graphic design consultancy Studio explains:

> In designing a physical space, graphic design is most effective as a means of communicating the idea of how the space should be used, understood and navigated. Graphic designers are trained to think holistically about problems and so the application of this to spatial concepts is not only appropriate but essential. (Design Council, 2006)

Sign designers also apply all phases of the graphic communications processes from origination of the idea (design, layout, and typography) through reproduction, finishing and distribution of two- or three-dimensional products or electronic transmissions. Designers employ many rules to create an effective signage design and reach the visual communication design aim.

Hamilton (1970) conceives of visual communication as a discipline referring to the use of universally recognised visual aids and the techniques necessary to improve the readability and comprehension of materials. These techniques range from abstract to realistic (iconic) representations and from synchronic to diachronic, for example, maps, images, narratives and flows. In terms of realistic visualizations identified images and narratives as important models for giving the perception of the atmosphere or either of the experience, considering the synthetic power of images and the potential of narratives.

Lester (2006) stated that the interpretation of images as part of the visual communication is subjective and required analysis by the viewers. He categorised six ways analysis, from a personal, historical, technical, ethical, cultural, and critical perspective. From this it can be seen that visual communication concerns the way in

which designers use visual design theories and principles to create effective designs, understanding the rhetorical situations of a variety of visual media experiences and the relationships between visual rhetoric and visual literacy. Designers studying visual communication are taught the following (Smith *et al.*, 2005):

- the basic physics of light, anatomy and physiology of the eye,
- visual perception theories, colour theory, Gestalt psychology,
- cognition, persuasion, natural reading patterns,
- design principles, aesthetics, semiotics,
- camera/filming actions and image-types.

This implies the need for this to be incorporated with other competencies into the curriculum. By applying the concepts of Gestalt psychology (such as proximity, similarity, alignment, repetition, contrast, positive and negative background and contrast) designs are created that enable the audience to locate matters of interest, and to understand the maximum amount of information quickly and easily. Lang (1987) suggested an approach based on Gestalt psychology principles, using three interlinked factors: multi-sensorial perception; symbolic meanings; and the relationship between these symbolic meanings and the physical characteristics of the built environment (Portella, 2007b).

The effective use of scale, contrast and proportion increases differentiation which is essential for defining design elements so that they can both emerge and be prominent. Scale and contrast are important elements in the design composition. However, scale and contrast can be applied to emphasise design elements and direct the viewer's eye throughout the composition in a predictable sequence that will

support the communication aim. Scale and contrast add visual interest to a composition by juxtaposing elements with strongly opposed visual qualities to create excitement (Natadjaja, 2005). This section has discussed the link between sign and graphic design as part of the graphic communication and visual communication design and the way designers use visual design theories and principles to create effective designs.

2.9.2 Visual perception

The signs that identify a property provide information and assistance to the users of buildings. They also represent an important aspect of their visual identity, communicating essential information about the buildings and their operations. Body and mind interact to enable us to perceive these messages through the process of vision, Eyes receive the energy of light reflected from the signs, light sensitive cells in the eye send messages to the brain and then we interpret and understand signage (Malamed, 2009). By understanding how visual perception works, designers can make choices to direct the eye and attach meaning to the visual elements enabling people to better remember and understand the message.

Malamed (ibid) added that visual perception happens quickly, but that a very complex set of interactions occurs in a short time span in order for it to happen. Visual perception is a two way street in that we see small details in the environment and take them all in to see the whole. We also bring to our environment knowledge and specific goals that determine where we look and influence our interpretation of sensory data.

Understanding and exploiting the abilities of the human visual system is an important part of the design of usable user interfaces and information visualizations.

Designers traditionally learn qualitative rules of thumb to enable quick, easy, and veridical perception of their design. More recently, work in human and computer vision has produced more quantitative models of human perception, which take as input arbitrary, complex images of a design (Dorai and Freeman, 2011).

Dorai and Freeman, (ibid) stated that perceptual aspects of a design are important to its definitive usability.. Design teams used to rely upon design guidelines, the skills of the designer, or user studies to ensure the perceptual "effectiveness" of the design. Recently, work in human and computer vision has enabled reasonably accurate perceptual predictions regarding arbitrary designs. Our environments have shaped the design of our perceptual systems through evolution and experience. Therefore, natural environments required direct measurement of the statistical regularities, which has great potential value for advancing our understanding of visual perception (Geisler, 2007).

Büchler's (2006) study presented assumptions from material culture that implied the belief that the interpretation of the designed object was the result of a single connection with the physical object form. Theories from the indirect account of perception suggested that the physical aspect of the observed object was connected to the construction of perception/interpretation in an iterative and continuous way.

Büchler (2006) suggested that the physical aspects of what is observed impact its interpretation in more and different ways than the material culture's framework would account for. Therefore, he proposed that the physical aspect of what we see could be altered by our knowledge and cultural make-up. The idea of perception as an iteration between physical form and personal knowledge suggests a distinct role for

form in the construction of content. The study suggests that the visual perception of form is constantly constructed in the process of perceiving the designed object.

Portella (2007b) stated that the process of user evaluation of the visual qualities of public spaces involves two principles: perception and cognition. Perception is related to the process by which users get visual information about places through various stimuli. In the city, these stimuli are the substantial elements of public spaces, such as commercial signs, shapes and colours of buildings, and other street furniture. The latter principle does not need to be related directly to visual stimuli linked to the physical characteristics of places. The cognition process concerns symbolic meanings associated with places, and can be influenced by the user's urban context, values, culture and individual experiences. Based on Gestalt psychology principles, Portella suggested that the process of perception and cognition involves three knitted factors: multi-sensorial perception, symbolic meanings, and finally the relationship between these symbolic meanings and the physical characteristics of the built environment. Based on this, user perception involves more than a mere intellectual association related to an observed object and is also linked with the cognitive process from the start. This is how people evaluate scenes as positive or negative when the streetscape is analysed.

The perception of a sign is governed by factors such as the viewing distance and angle, clarity of the message, reading time and speed of movement. These aspects influence an observer's ability to perceive a specific sign, to read its message and to act upon it. This means that decisions about message length and sign size and placement are interrelated (FIP Manual, 1992).

The Federal Identity Program (FIP Manual 1992) highlighted that much of the effectiveness of a sign depends on factors such as the formulation of the message. This identifies the need for a clear understanding of sign communications and stresses the use of plain language. Important decisions such as the size of a sign and its location are influenced by the viewing conditions at the site, namely:

- the angle from which a sign would normally be viewed;
- the quality and intensity of the light available;
- possible obstructions of the sight lines between viewer and sign; and
- the visual environment behind or around the sign (e.g. other, competing signs or similar distractions).

The manual (1992) confirmed that a sign should be placed at a right angle to the observer's central line of vision in which the viewing angle should be nearly 90 degrees. The legibility of a sign message deteriorates when the viewing angle is less than 45 degrees. Moreover, the placement of a sign should be determined in relation to the observer's normal line of vision. The Manual defined the displacement as the distance between the centre of a sign and an observer's central line of vision (measured at a right angle to the central line of vision). If possible, the angle of displacement should be between 5 and 15 degrees (e.g., 0.25 m of displacement per 1.00 m of viewing distance provides an angle of approximately 15 degrees at the eye of an observer). Viewing distance and character size are important because it affects the sign's legibility and ultimate size. Even though the distance character size ratio is the major factor when determining character size (Figure 2.4).

Figure 2.4. Siting of signs, viewing distance and character size, (FID Manual, 1992)

Figure 2.4, shows the viewing distances which referred to a pedestrian. They are based on an observer who is standing or walking towards a sign. When determining the character size for a sign intended for vehicular traffic, the normal speed of traffic passing the sign becomes an additional factor. Table 2 in Figure 2,4 shows the viewing distance and corresponding character size, which is intended for general guidance. It represents values applicable to normal viewing conditions and reading distances. The values are based on the signage typeface which sets out the design of the signage typeface and describes the spacing system to be used. When more than one character size is used on a sign, the viewing distance character size data should be applied to the main message, the largest size. The 50 or 60 mm size should be considered for traffic speeds of up to 30 km/h; the 80 or 100 mm size for speeds of up to 50 km/h; and the 120, 150 or 200 mm size for speeds of up to 100km/h.

The FID Manual (ibid) affirmed that the ease of perception of a sign depends to a large degree on the quality, intensity and colour of ambient light that falls on it. Generally, available ambient light should suffice, but operational or site conditions

may call for special measures to be taken to ensure there are acceptable levels of illumination. Night time visibility of a sign may be needed to facilitate access to services provided directly to the public.

There are four functions of the visual system to be considered when designing products (Inclusive Design Toolkit, 1999).

- Visual acuity is the ability to see fine details of objects
- Contrast sensitivity is the ability to discriminate between different brightness levels
- Colour perception is the ability to distinguish between different colours
- Usable visual field is the ability to use the whole of the visual field to perceive detail in the area being looked at and the surrounding area

The data presented in this section relates the perception of signage back to the diagram of the application of knowledge to a particular space (Figure 1.3). This diagram recognizes that different factors can influence the design of a sign, such as human factors (visual perception, social and cultural values and etc.) site, location, architecture, environment and material.

2.10 Sign Design Education in Jordan

In Jordan, Art and Design Institutions do not teach sign design as a separate discipline. Therefore, the core competences on which to base a sign design course have not been defined. The growth in the Jordanian sign industry and the wide ambitions for Amman require the presence of qualified sign designers to create an appropriate urban image. To do this, formalised and regularised courses need to be instigated across those Jordanian institutions that teach graphic design. Abu-Awad,

(2004, 2008a, 2008b) argued that design education must focus on delivering a life skill; achieving a balance of skills in visual perception, knowledge of design principles, proficiency in using advanced tools and in using new technology. The starting point for this is the identification of a set of competencies. Competencies should guide a student in making appropriate professional decisions regarding their work so that they can produce a successful end product. Topics could include 3D design for the built environment, and the understanding of materials and processes used in industrial design as use of a combination of applied art and applied science to improve the aesthetics, ergonomics, and usability of a product, and human factors in architectural environment.

Sign design originated and developed with the need to communicate information. Sign design was not an independent discipline as much as an extension and application of graphic design (Sims, 1991). Gibson (2009) affirms that most students need to supplement their knowledge before entering the field or joining a firm at an entry-level position.

Sign design education, as a special discipline does not exist in Jordan. As it is related most closely to graphic design, it is worth looking at the development of graphic design education. This is also a fairly young discipline in Jordan, introduced in the 1980s. As such its content is constantly changing due to educational developments and the new trends in the market.

Graphic design programmes in Jordan are taught in Departments of Fine Arts and Graphic Design as part of the Art and Humanities Faculty, or the Art and Design Faculty in public and private universities. They also feature as two-year programmes run by community colleges. A review of the course structure from both universities

and community colleges reveals that graphic design programmes cover both theoretical and practical content in the areas of printed product design, design principles and theories, design history, art history, computer graphics, design psychology, advertising design and packaging. The length, status of the course, and the type of institute that offers it are important factors that have impact on the curriculum and the teaching and learning approach.

However, crucially for this research, these courses do not give specialised attention to sign design. It may be taught as part of a module that teaches outdoor advertising,. For example, students may be asked to design outdoor advertising for an existing global brand as part of their module task or assignment. Universities may incorporate sign design in their modules but do not teach it as a specialism.

Shorter courses which run at further education faculties and colleges do not have space in their curriculum to devote to specialist study. Higher education courses, may seriously, fail to incorporate sign design into their curricula.

The absence of sign design education as a specialisation was previously noted by Sutton (1965) who stated that sign design, though linked to both architecture and typography was a separate area of design. Signs offer wide opportunities for lively and original work, but are a neglected area.

Currently, there are no known comprehensive courses in sign design at degree level, in Jordan, the UK or the United States. Calori (2007) suggests that due to the lack of comprehensive teaching and the cross-disciplinary nature of sign designer, students may fill the gap in their knowledge base by learning in the field or workplace. Gibson (2009) noted that Environmental Graphic Design is a vibrant

profession and growing field. The Director of Educational and Professional Training at the Society of Environmental Graphic Design in the US (SEGD) states that firms compete for the limited numbers of design school graduates who have the necessary wayfinding or signage background and often have to spend several years training in-house staff before they can manage a team or work on complex projects. Gibson (2009) added that SEGD has addressed this problem in part by connecting professionals with teachers and students and by producing workshops, conferences, research papers and publications.

Therefore, graphic design graduates in Jordan may not know about 3D forms and materials, working to scale, interpreting architectural drawings, basic drafting, human factors in the architectural environment, regulations, codes and the principles of environmental graphic design (Gibson, 2009; Calori, 2007). As a technology-based discipline latest developments also need to be integrated into the education system. It is hypothesized that this will enable students to take their place in the profession and the market will benefit from the work of graduates who possess cutting-edge skills.

Therefore, a curriculum must include technological elements relating to electronics, computers, lasers, manufacturing techniques, science and engineering. These developments have changed the sign making process and the types of sign produced, in the same way that the discipline of graphic design has been revolutionised by technological changes. Therefore it is argued here that there is a need for a solid educational foundation in sign design which balances good communication skills, typography, layout, information design, and basic training in three-dimensional design for the built environment and understanding the materials commonly used in the industry.

2.11 Sign Design Competencies

Abu-Ghazzeh's (1997) research did not focus on education, but on the need for design standards that could be universally applied to reduce the visual pollution. He proposed this in response to commercial signage which offended the observer's aesthetic sense of design, form, proportion, colour, material, surface, treatment and position. This research argues that signage regulations and design standards alone will not on their own clear the visual pollution; and that such regulation may be a dissestive to the growth of the profession.

The impetus to identify design competencies grows out of the tacit presuppositions that exists around design's value to the world in general and business in particular. Conley (1999) observed that designers and design advocates argue for an expanded use of the field. They have argued that design should be used more frequently, more broadly, and more strategically.

He (1999) stated that design is far broader than the architectural, industrial and graphic design traditions embodied in the majority of design programs around the world. He presented examples of design that would include the areas of engineering that are concerned with the conceiving of new systems and technologies. This definition moves beyond the strong visual bias of the traditional design disciplines to include any activity where the specific form and arrangement of elements is used to create value.

Conley (ibid) recognised the core competencies of design as a set of tangible, specific, and applicable skills that designers can bring to the professions:

- The ability to recognize a broad range of potential in a given problem statement.

- The ability to work at varying levels of abstraction.
- The ability to model and visualize solutions before all the information is available.
- An approach to problem solving that involves the creation and evaluation of multiple alternatives.
- The ability to add or maintain value as elements are integrated into a whole.
- The ability to identify and respond to relationships between a solution and its context.
- The ability to use form to embody ideas and communicate their value.

He points out that a designer's thinking may be conceived of as a set of competencies that can be articulated in a tangible and meaningful way. He characterises the core competencies of design as the designer's ability to recognise a broad range of potentials in a given problem statement; to work at varying levels of abstraction; and to model and then to visualise solutions before all the information is available. The designer's approach to problem solving should involve the creation and evaluation of multiple alternatives which can be evaluated and developed in the light of new information.

Spencer and Spencer (1993) defined competency as the internal characteristics of an individual that produce effective and superior performance. It is more than just knowledge and skills. It involves the ability to meet complex demands by drawing on and mobilising psychosocial resources in a particular context.

In relation to sign design, every sign should be planned so that it meets the requirements of the client, the location, and the intended audience as well as the city's rules and regulations. This means that the designer needs to attend to environmental

and architectural issues. Therefore, it is important to consider the required competencies for a designer operating in the field of sign design today. These encompass three essential levels of consideration: the factors concerned with the location, the physical construction of the sign, and the human factors (Figure 2.5).

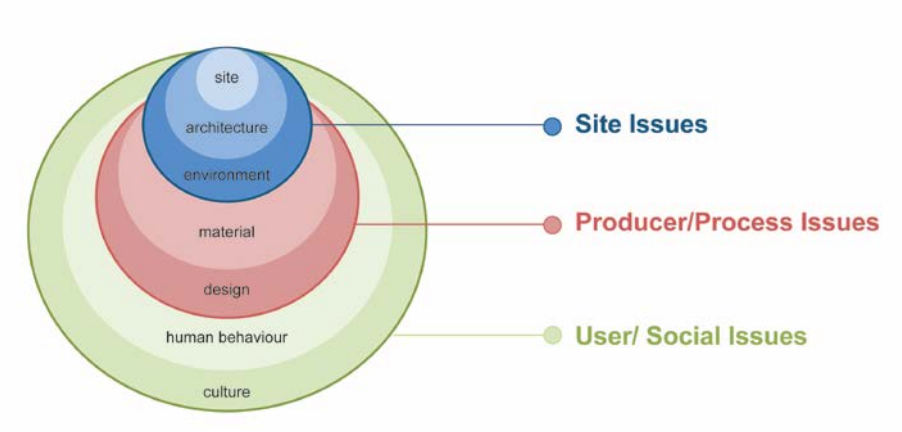

Figure 2.5. An application of knowledge to a particular space.

A survey conducted by the Society of Environmental Graphic Designers (2007) in the USA, assessed the general design and technical design skills needed by designers. Planning and design process skills appeared to be in highest demand at entry, level and senior designer levels, along with account management and presentation skills. Technical skills rated near the bottom of the poll. In fact, it can be deduced from the data that communication and visualisation skills are the leading competencies of environmental graphic designers. It might be that some of the necessary skills are already present in environmental graphic designers could contribute to the content of sign design courses. It should be kept in mind that the scope is quite specifically on the designer practice of the sign designer and not more generally on design to assist navigation or wayfinding in cities. However, environmental graphic design is broader in scope and so the range of competencies for commercial signage designers will be commensurately narrower than those for

environmental graphic designers.

The competencies possessed by a good designer will demonstrate that they have completed a comprehensive design education and that they have skills which are applicable to the needs of the professional marketplace. In addition to applying their creative and organisational skills to the work of the design department, the designer will also bring the broader values of design expertise to the whole organisation, having a positive effect beyond the work they do within the design office. Conley (1999) confirms the value of being able to see potential in a problem; of being able to work at varying levels of abstraction and of being able to make things tangible in spite of not having all the information.

Burnett (2009) insists that the tradition of making (creating and producing) that dominates contemporary art and design universities and colleges is often portrayed as one of the essential differences between design schools and mere colleges. Making is given a higher value than just thinking or research, which may have no pragmatic or immediate outcome. From his perspective, the learning process, both within design and generally, is so interdisciplinary that the focus on outcomes tends to distort if not undermine the creative process and that of innovative and speculative thinking.

Duggan and Dermody (2005) conducted a case study of a problem-based learning approach to design education at Dublin Institute of Technology. They concluded that it is becoming more of a challenge to mediate information as a result of the rapid development of information technology. They highlighted that the role of design education is to equip students with new models and processes with which they can analyse and solve increasingly complex design problems. Problem-based learning

equips students to examine design in a collaborative setting. Student groups must define and shape the direction taken and define their own pattern of participation in the process. This way they will be in more control of their own learning.

In his research, Dharavath (2003) identified significant differences between industry representatives and educators regarding the importance of technical competencies for the graphic communication curriculum. Dharavath's (2003) research confirmed the importance of collaboration between industry and educators who, through cooperative work, should promote education and enhance educational programs. He says that research studies identifying technical competencies are required to make sound curricular decisions for technology-based graphic arts educational programs.

Faiola (1999) stated that the technology behind an integrated learning infrastructure will strongly influence the scope of how designers receive, manage, and disseminate information assets in every facet of the graphic design industry. Therefore, design educators must prepare their students today for future technological change.

Sign designers can satisfy customers' requirements with a working knowledge of design. However, although a professional sign designer can achieve a professional product through the use of computer-aided programs, they cannot ignore corporate need to enhance their corporate and retail spaces. Connecting theory with application will enable the creation of effective designs that integrate with the environment, to not only provide context to a space but also to make it aesthetically pleasing. Designers may differ in what they think is appropriate, as well as differing in sensitivity or responsibility towards the environment. Designers practice methods of solving the

planning and functional problems of signs by explaining the overall process of planning and, in designing signs, designers must combine the rigors of technology with the inspiration of high art (Calori, 2007, Gibson, 2009). It is possible for sign designers to satisfy customers' wants and needs with a working knowledge of design tools, and this is indeed how many successful sign designers practice.

In the course of the thesis it will be argued that sign designers currently practising in Jordan may not possess adequate skills to enable them to work in sophisticated markets. No research studies on validating the essential competencies for sign design have been found in the literature. Thus, significant gaps warrant further investigation.

2.12 Conclusions

This chapter has introduced the Amman Master plan (2005) in relation to commercial signage. It provides definition of signage for the functions of commercial signs and the role of commercial sign designers. Additionally the growth of the communication and sign industry and its development in Jordan has been discussed. It has been argued that the current level of sign design education may be inadequate, given the competency needed in the market.

The main review has been hampered by a lack of publications about sign design, the industry and the teaching of graphic design in Jordan. No studies have discussed the teaching of sign design or its necessary competencies, or the role of the sign designer. On the other hand, some studies have discussed the competencies needed in related design disciplines.

Increasing globalisation and commercial competition has meant that designers need to

understand not only how to design and create a sign, but also the place that signs can have in the wider marketing strategy. Only designers armed with information about sign design principles and the materials and technology required, as well as an understanding of the needs of the evolving marketplace, will be able to rise to the intellectually challenging task of meaningful interpretation and creativity. Fully understanding the relevant topics and techniques will allow appropriate design strategies to be developed. The literature review confirms the need for sign designers to understand the whole system of interconnected elements that participate in, affect, and influence the design process to meet the challenges placed on them by both the customer and technology. Moreover, design methods direct sign designers firstly to work as collaborative partners with their customers to understand their vision and the strategy for the design operation. They study the people, process, structures, and technologies that compose the space in which their signs will function.

Design education needs to balance discipline, knowledge, technical skills, theoretical principles and practical elements. Such a comprehensive approach would benefit students in the field of sign design and professionals working within sign design. Courses may require more than the fundamental skills-based knowledge of existing graphic design curricula, as students also require additional understanding of the concepts of reviews, layout and proofreads of sign text, sign-making-graphics programs, signage printing and digital output, three dimensional signs, maps and graphics, materials, environment and more (Calori, 2007; Gibson, 2009; Uebele, 2007).

Sign design education should cover subjects relating to perception, concept and methods of physical production, with particular emphasis on the relationships

among these three (Gibson, 2009; Calori, 2007). Comprehensive design programmes should provide a broad foundation that can support various specialties and more focused areas of research. Crucially, designers need to be introduced to the special techniques, processes, procedures and materials used in the industry, in order to meet the professional standards demanded by today's marketplace (Lawson, 1990).

Therefore, design educators need to consider these issues and review the content of their academic programs, recruiting techniques, and long-term planning strategies. Education programmes in Jordan focusing on design skills require new strategies and course structures to be put into place in order to meet the challenge of ever-advancing trends in sign design. This literature review has indicated the competencies sign designers need and graphic designers should have in order to practise sign design in Jordan. The development of sign design competencies can improve sign design education programmes in Jordan and in turn improve signage in Amman.

2.12.1 In conclusion

This chapter has set out the case for a comprehensive study of contemporary sign in Amman. Significant gaps have been found in the literature; specifically in relation to information about the training of Jordanian sign designers, the gaps that have been found in their skills, and the skills that they need to work in a demanding environment.

Some research has been found related to commercial signage in Amman. This has been disregarded by developers and is now over 10 years old.

Although the research starts from the perspective of commercial signage

problems in Amman, it is believed that significant gaps exist in sign design teaching that make this research of relevance to the wider design community.

Chapter Three: Methodology

3.1 Chapter Outline

This research was conducted to address a specific problem, i.e. how to propose ways in which graphic designers can improve the design of commercial signage in Amman, Jordan. Given the problem-oriented nature of the research, a pragmatic approach was adopted, using a mixture of qualitative and quantitative approaches where necessary. Before documenting the approaches taken, this chapter firstly addresses the challenges which had to be overcome in undertaking research 'in the real world', and secondly considers the need to remove biases which may have arisen owing to the researcher's own perspective and interests in this area.

3.2 Research 'in the real world' and the perspective of the researcher

In the ideal world, the designer's stake, or personal interest in the problem may be slight, and their interest moves on to the next problem after they have developed a solution that is considered satisfactory to themselves and to the client. Such solutions will fulfil the initial requirements based on an understanding of the client's requirements, will balance tradeoffs, and will match their own design.

The most difficult problem in this research has been to discover the reason behind the visual pollution in Amman. This problem needed to be addressed, but before doing so, it had to be justified that this was a 'problem'. This related to ways of knowing (see Section 3.4) and directed me to 'understanding' in terms of the proposed research design model (Figure 1.1), and led to an investigation to determine whether other people in Amman had similar opinions. This was followed by further

research (desk based and in the field) to understand how this situation had arisen and how other people had researched and addressed it.

As previously stated, my background is in graphic design. I believe that design is a process of discovery in which the designer is situated between the problem and the solution. It is a journey from researching, conceptualization, designing, presentation, approval and finalization, whilst balancing different factors such as the client and end users' needs. As a designer, I have been equipped to tackle different design briefs. A researcher's skills directed me to research, analyse and propose a solution, based on an understanding of the design brief components.

As an academic researcher, I have needed to draw on a wide range of resources to determine the nature of the problem and the solution. Searching for the reasons behind the state of the commercial signage in Amman has required me to set aside my own beliefs. This provides the research with its reliability and validity. Reflective practice emphasizes the combination of personal insights and external material brought together through focused research

I commenced from my own personal belief that commercial signage in Amman was a source of visual pollution. Not only did I not understand the need to verify this belief with others, but I also came with a readymade solution to the problem; i.e. a sign design guide which would regulate all commercial signage in Amman prepared before I conducted any research. This was based on my personal understanding of the problem and I arrived at it in a similar way to my commercial projects. My inner design voice was dominant. As the research progressed, I became open to other views and gained a wider understanding of the problem. Through

reflection on the research outcomes, I gained a wider perspective and no longer considered only my own perspective (Figure 3.1).

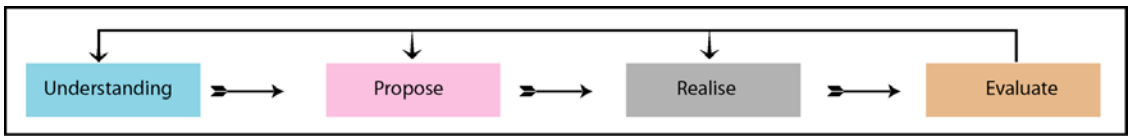

Figure 3.1. Research model with feedback loops

Interviewing different groups in Amman confirmed that others felt the same as I about the state of commercial signage. However, as I also considered how the problem arose and the views of the wider community (e.g. design professionals), I became open to other solutions.

The designer, client, consumer and Amman municipality all have roles to play in the creation of the urban environment. The plethora of unregulated commercial signage was an outcome of the tensions in a rapidly evolving city, in which businesses are in lively competition. Regulating commercial signage (through the sign design guide the researcher had originally intended) would give rise to a flat urban environment, devoid of creativity and visual richness. Additionally, the signage regulations enforced by the GAM were not infallible, and whilst the visual appearance of the city improved somewhat, the regulations created additional problems (Chapters 2 and 4), partly due to the manner of their implementation. This confirmed the growing belief that regulations alone may not lead to the design of effective commercial signs. The regulations imposed by Greater Amman Municipality on the size, height, illumination, and the content of on-premises commercial signs were made at the request of local planners and special interest groups. Their discussions did not seem to be informed by Abu-Ghazzeh's research on large scale consultation with

the sign industry. It is argued that restrictive regulations aimed at improving the commercial environment through aesthetic enhancement, which may be linked to increased tourism (Taylor, 2005). On the other hand, the signage needs to be designed to complement the surrounding environment and local culture, dealing with differences as part of the physical design principles.

As a shaper of the urban environment the designer is part of the process of its construction and, as such, may be a contributor to problems if he is not able to balance conflicting demands if, for example, the client demands something which is against the regulations or the requirements of the site. Therefore, it is necessary to know which designers are involved in the process, how they approach their work, their characteristics and how their training equips them to work in a changing context. Those involved in sign design in Jordan are mostly graphic design graduates. They are equipped with certain competencies in graphic design, whether these competencies are sufficient for them to practice sign design is not known. Reflection on the data and the situation unrolling in Amman opened my mind as a researcher to new directions and avenues of exploration which in turn would lead to new solutions.

Here, my career as both a graphic designer and an academic led me to move away from a sign design guide and toward looking at the training of undergraduate designers – providing them with the skills needed to tackle design briefs. A design specialisation would require a contribution to knowledge based on a deep investigation and understanding of the initial problem, the adoption of new ways of working in which initial assumptions have to be justified, interrogated, validated or refuted (Conroy, 2003).This shows how my training shaped the solutions I proposed

in a similar way to which the required competencies of a commercial sign designer will lead him to fulfil the brief in a particular way.

To summarise, I started with a problem of my concern, and one in which, as a designer with my own practice, I was a major stakeholder. Any proposed solutions to the commercial signage problems in Amman would affect not only my own practice, but also those of my friends and peers. This may mean loss of prestige, influence and business not only for me, but also for the wider signage industry in Amman. The ways in which this positionality was addressed are discussed in Section 3.3.

Research in the 'real world' or into 'wicked problems' presents substantial challenges (Fitzpatrick, 2003). In the previous chapters it was noted that Greater Amman Municipality, Amman's regulatory body and a named collaborator in this research, with little consultation or thought for the consequences, implemented a set of regulations for design to remove the problem the researcher was addressing. This action started after 12 months after the initiation of this research. In the short term, the planned attitudinal survey and analysis of signage in Amman was immediately rendered redundant and unworkable, and, in the longer term, the solution which I had been favouring had been poorly implemented before I had a chance to formalise it. This required stepping back from the research, re-evaluating options, and considering the implications of this consequence.

Although it was a major step back in the research, the ramifications of the implementation led me to understand more about design and the nature of wicked problems (section 3.4) and to re-evaluate the strengths and weaknesses of my own proposed solution which, in hindsight, would have had major shortcomings in terms

of curtailing creativity and had limited impact on the wider design profession. The role of reflection as a research method is discussed in Section 3.5.

Following Coventry University's ethical framework (Section 3.6) and drawing further on my own background and skills, I embarked on a series of studies to understand the effects of the new regulations on Amman's cityscape, the attitudes of different groups towards these and the way in which the graphic design community was adapting to the new framework. This understanding was further enriched by studies outside of Amman, looking at the work of sign designers and the way in which signs and branding could be adapted to be more in keeping with the local environment. In all of these studies a qualitative approach was adopted to the research (Section 3.8).

The conclusion of the research studies was the finding that commercial graphic designers in Jordan (and possibly elsewhere) lack some of the skills needed to work as commercial sign designers, especially in situations where they need to balance aesthetics, the needs of the client, an understanding of regulations and the use of materials and processes. Without these skills they will not be able to produce effective signs, and they may lack the knowledge and confidence to debate with policy makers and urban planners about the role of signage in creating a vibrant cityscape.

The interviews with practicing designers provided evidence that they felt their education had not equipped them with the necessary skills to deal with the everyday issues they experienced. This was further confirmed through an analysis of graphic design curricula and interviews with graphic design lecturers in Jordan and the UK.

The study showed that sign design was not taught as a major to any large extent in current courses.

Using the results from all stages of the research, a set of potential competencies for sign designers was drawn up. A more quantitative approach (Section 3.9), the Delphi method, was used to achieve consensus on the set of competencies needed by sign designers, which could be used in planning new courses.

The following sections address in more detail the issues raised above, and discuss in more detail the studies undertaken in this research.

3.3 Positionality of the researcher

At times during the research, I considered myself to be a graphic designer, tutor, architect, urban designer, regulator, sign manufacturer, pedestrian, environmental champion, sign user, and researcher. These categories are neither mutually exclusive nor static. Understanding more influences helped me to acknowledge my own position, value-stance and bias in analysing and writing up the research. Reflection on positionality ('reflexivity') enables an acknowledgement to be made of the position of the researcher in design and planning, data collection and analysis, research writing and reporting (Moser 2008).

The researcher's perspective refers to the context which influences what is seen and interpreted. It includes the researcher's value systems and his social and political landscape (e.g. skills, competencies, education, design principles, culture, and social status). In relation to this, my background as a graphic designer, academic and practitioner impacted on the questions I ask, the manner of investigation and the interpretation of the preferences upon which, as far as possible, the research question was addressed objectively, acknowledging my understanding of the world.

The adoption of an interpretivist paradigm acknowledges that the researcher's own values and actions, as well as those of the individual participants, will affect the results drawn from the investigation. Greenbank (2003) discusses the effects of different types of values and interests. He points, for example, to the potentially distorting effects on research of factors which are not often discussed such as the career aspirations of the researcher. His main argument is that:

> "Users of both quantitative and qualitative methods all need to recognise the influence of values on the research process. The inclusion of reflexive accounts and the acknowledgement that educational research cannot be value-free should be included in all forms of research. Researchers who do not include a reflexive account should be criticised."

This draws attention to potential conflicts between a researcher's values or moral codes, the accepted cultural and social values and the values of those being researched.

To reduce this bias, opinions have been sought from a wide variety of interest groups including designers and others practicing sign design, customers, academics, sign users and sign manufacturers. They have left their impact on the researcher and his research. This has strengthened his recognition and enabled him to acknowledge that the participants belong to various social and cultural categories which position them differently in relation to the research question. This understanding has helped me to move away from my personal beliefs to impartiality and neutrality in fieldwork, searching for the truth.

As previously mentioned, as early as 1996 Abu-Ghazzeh conducted research in this area. However, he focused on different areas and came to different conclusions. This illustrates that researchers investigating similar topics may not produce the same conclusions because of differences in time, place, experience and culture.

3.4 Ways of knowing

The philosophy behind the research supports the manner in which data is identified, collected, interpreted and applied in answer to the research question. Epistemology is a term relating to knowing things that are true; doxology is a term related to believing things to be true (Goldman, 1999). The Western scientific method seeks to know, rather than merely to believe, and is therefore concerned with epistemology not doxology. In this research I moved towards an epistemological position, to identify the factors behind the visual clutter leading to a proposal that this might have been caused by differences in the and the lack of skills in designing commercial signage that incorporate and integrate with the surrounding environment.

Positivism is a logical system that bases knowledge on direct, systematic observation. It usually seeks out law-like statements of social life that can be tested. Interpretivism has developed as a critique to this. Interpretivists emphasize the need to understand or interpret the beliefs, motives and reasons of social actors in order to understand social reality (Goldman, 1999).

Therefore, an absolute truth cannot be obtained, and the data is instead subject to the interpretations of the researcher. The interpretivist approach is particularly relevant to matters in social science, where data is often drawn from the opinions, judgements and perceptions of human being which, by their nature, are influenced by many variables (Cryer 2009). The truth is constructed both individually and collectively by the human actors involved.

The approach undertaken in this research is underpinned by practical interpretative philosophy. This philosophy maintains that the truth may be discovered through the conduct of an investigation. But, unlike natural science, there is no

objective, absolute truth but rather individuals and collectives will interpret the truth, often in multiple and conflicting ways. This way of understanding phenomena and answering questions stems from an interpretivist research paradigm.

Intrepretivism and constructivism are related approaches, stating that a human mind is required to bestow function, aesthetics and value to any object or fact within the world, and that discovering the facts through research is a process of the interpretation of phenomenon by human onlookers, including the researcher (Schwandt 1994).

Constructionists maintain that there is no truth contained within social entities, instead truth is dependent on the subject. What concerns the researcher is exactly how our interpretations ascribe meaning and significance to phenomena. Human beings are the source of the meaning of social entities, through their interactions and encounters with place, environment and objects. For example, different designers may understand a sign, building and place differently and will, therefore, bestow different attributes upon these things. Foucault (1972) said, “Nothing has any meaning outside the discourse” (p216), and Giddens (2001) defined discourse as “The framework of thinking in a particular area of social life” (p248).

Therefore, signboards are accepted as they create a particular and familiar discourse between people. Signboards can, therefore, be considered to be both a construction of social discourse, and to form part of social discourse themselves. The message conveyed by signboards is dependent entirely on the collective understanding of words and symbols shared by the designer and the audience. Understanding the message of signboards is, therefore, culturally relative and dependent upon shared meanings.

This research is concerned with different meanings, people, places, environments, objects and processes and the way in which these phenomena co-exist and interact. This is a constructionist position, in which ideas and conclusions are constructed within a specific environment, from the existence and interactions between phenomena within it, of which the researcher is part (Seamon, 1999). Judgements made by individuals or groups upon the quality and appropriateness of signage in a given environment should equally be seen as being constructed from a complex interplay of social norms, values, cultural meanings and other phenomena within the urban environment. Regulation is the only tool to dictate how a sign should be presented according to a set of objective rules. Any attempt to draw such rules will inevitably be a consensus drawn from a variety of opinions held by a group of stakeholders occupying a position of authority. Such authority figures may be either professional, governmental or provided by the office of an employer, teacher or mentor. What gives these people the power to agree on such recommendations is their social and professional status. Consensus is a method of democratising that process, ensuring that ideas only become standards when they are agreed by the majority.

As it was mentioned before, the research data was derived from different resources and stakeholders, such as the literature review, the municipality, design educators, sign designers, the public and the expert panel.

3.5 Design and wicked problems

Design is considered to be a form of complex problem solving. Design exists with us, starting with our birth certificate and accompanies us with different form and shapes.

It confronts us with examples of things, objects, and visions. Objects that have been designed are everywhere around us.

Good quality designs stand out to be beautiful, functional and applicable. Quality pertains to all these objects. Functionality and aesthetics are evident, identifiable principles that make an audience or users like or dislike the design, in spite of understanding the design message or function (Faimon and Weigand, 2004). Problem-solving in design requires searching for a workable solution that can be reached in a practical and effective way. This process should address various elements which are interrelated to the task in order to propose a functional and aesthetical solution (Archer,1981).

Archer (ibid) stated that the 'wicked nature of design' originated from design projects that have no definitive solution; these problems requiring a lengthy process of structuring and restructuring. Rittel and Webber (1973) found ten characteristics to define wicked problems, which are best interpreted in the context of social planning, such as there being no definitive statement of the problem; or there is a broad disagreement on what 'the problem' is. This may lead to no definitive solution and therefore a no 'stopping rule' indication when any best solution has been reached. In real life practice, there are competing solutions that activate a great deal of argument among stakeholders.

The only way for designers to really understand the problem is by developing and proposing solutions and seeing how they advance their knowledge about the problem by reversing the flow of thinking through a solution, as with wicked problems, such that the solution must come before the problem. Solutions to wicked problems are not right or wrong, merely better, worse, good enough, or not good

enough. There is a high degree of subjectivity and each stakeholder brings their own perception to the table, causing discord.

This research is about a wicked problem. There is no right solution. I have suggested training as a solution, and it may be one part of the solution in a similar way to the regulation. A sign designer needs to propose a solution to sign design by looking at different factors as shown in the application knowledge diagram (Figure 3.2).

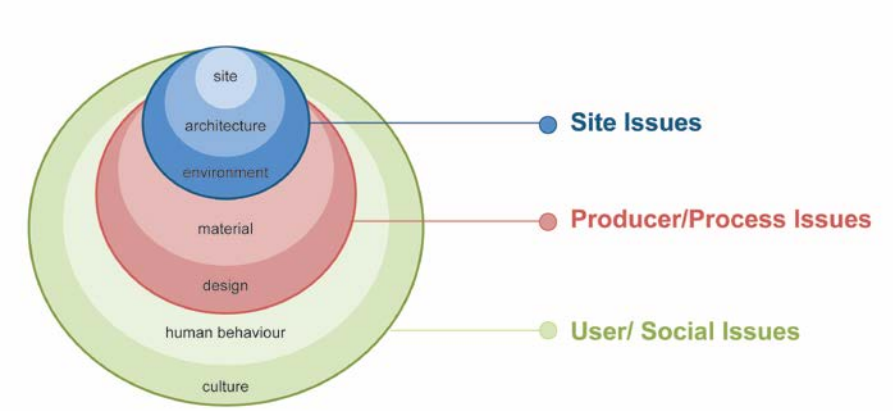

Figure 3.2. An application of knowledge to a particular space.

3.6 Reflection on the research process

During the research I have moved to an epistemological position. At the beginning of the research I was convinced that I was right about my attitudes towards signage and the solutions I had proposed, as I have practiced and lived with the problem and am very close to the design sector. I did not see the need to research what others thought, it was enough that I believed it to be true. Additionally, I have moved from a position where I believed that regulations and sign design guides could solve the problems of visual clutter. They may, but at the expense of visual richness, creativity and individuality. By focussing on the designer's training and education, it is hoped that

Jordanian designers may understand and apply a wide range of skills to create signs which meet the clients' brief and are aesthetically pleasing and in line with the image the city wishes to portray.

3.7 Research ethics

The ethical implications of the research were an important consideration and the researcher was aware of his reciprocal obligations to the participants (Appendix 1).

Before the empirical research commenced, it was ensured that all the requirements of Coventry University regarding ethical research methods were met. Research designs were submitted, when appropriate, to the Coventry University Ethics Committee.

The British Psychological Society (2004) sets out the UK standards for research involving human participants. These guidelines provided the framework that was adhered to throughout the research in order to remove the risk of psychological harm to participants.

In following are the British Psychological Society's (2004) guidelines :

- The participants were informed of their right to abstain from participation in the study or to withdraw consent to participate at any time.
- Written material was developed to ensure that the participants understood the aims of the research and could give their informed consent in writing.
- Every precaution was taken to respect and safeguard the privacy of the participant and the confidentiality of their information.

During the research study the rights of the participants were of major importance and participation only took place after voluntary and informed consent had been obtained (Appendix1). Participants were informed of the nature of the study conducted and were assured that they could withdraw at any time. This was reinforced before the

interviews, which were recorded only after an explicit consent by the participants was obtained.

3.8 Research methods

A mixed methods approach (Creswell 2004) was adopted which blends elements of positivism and constructionism. Studying a research topic from multiple perspectives can produce a more complete understanding of a phenomenon than would be achieved if only a single perspective was considered.

A literature review was conducted to identify related research and to set the current research project within a conceptual, methodological and theoretical context, interpret the results, show relationships between this and previous work, identify gaps in knowledge, formulate a solution and provide an organising principle for the competences.

The selection of the methods used in the research took account of the philosophical debates underpinning the research topic. Of particular relevance was the debate between and around the selection of epistemological approaches (Hughes 1990). The common polarisation of qualitative or quantitative methodologies was abandoned in favour of a constructionist standpoint which allowed convergence between the two creating a mixed-method approach. This less dogmatic approach to research and the selection of methods are often recommended by social science researchers (Silverman 1993; Smith and Heshusius 1986).

Both qualitative and quantitative research can encompass many different approaches with which to collect and analyse data. For example, forms of data may

be textual, visual, or aural. Data collection methods can range from highly structured quantitative surveys to entirely free verbal accounts.

Using a constructivist, interpretivist approach entails that all data is analysed with an underlying knowledge that data is inherently related to constructed social experiences (Potter 1996). Such analysis will, therefore, aim to understand the meanings that are attached to experiences and phenomena by participants.

3.8.1 Rigour, validity and reliability

Without rigour, research is valueless, becomes narrative, and loses its utility. Thus, a great deal of attention is applied to rigour, reliability and validity. The challenge that confronts researchers is how to assure the quality and reliability of the research. It is hoped that the quality of research and the researcher's skills result in knowledge claims which are powerful and convincing. The three concepts of rigour, validity and reliability, provide a basic framework for conducting and evaluating traditional qualitative and quantitative research.

Rigor was achieved by adopting triangulation as a procedure to help the researcher's search for convergence among multiple and different sources of information. Different participants, with different interests and backgrounds, design practitioners, academics, sign users, and regulators were interrogated to elicit their experiences with signs in Amman, with design practice and in education.

Steps were taken to enhance the reliability and validity of the studies. Reliability is the consistency of the research measurement, or the degree to which an instrument measures the same way each time it is used under the same conditions with the same subject. Validity is the strength of researcher conclusion, inference or

propositions. It is the availability of approximation to the truth or a given inference, proposition or conclusion (Cook and Campbell, 1979). Validity is more concerned with highlighting different aspects of the relationship between the way the researcher treated and observed than the outcomes.

Table 3.1 shows the methods used to address the four research questions. Similarly, care was taken to avoid interpreter bias when analysing the interview results. This was achieved by following the procedure for thematic analysis as described by Aronson (1994), where transcripts are read and coded systematically. A research assistant also read through a percentage of the interviews and coded the transcripts independently. The two researchers discussed the findings together to ensure validity of the results and reduce researcher bias.

Study	Aim	Methods	Participants	Described in
Perception of signage in Amman	To understand the shortcomings of current commercial signage in Amman	Semi-structured interviews	Members of the sign industry (7); Amman Municipality (1); Sign users 60; Sign designers 10	Chapter 4
Case study of the development of corporate signage for Coventry University	To understand the local factors which need to be addressed by sign designers and their role in the design process	Semi-structured interviews	University's Corporate Affairs Department (2); Staff (15) Students (30) Sign manufacturer (1)	Chapter 5/1
Case study of McDonald's signage	To understand the relation between branding and signage and the role of teh designer	Photographic Analysis	30 photos	Chapter 5/2
An investigation of professional sign designers in Jordan	To investigate the role and potential of graphic designers in Amman who practice sign design.	Semi-structured interviews	30 Designers	Chapter 6
Evaluation of higher education training in Jordan and the UK	To understand: - The drivers of the curriculum - The exit profile of the students - The modules that are taught - How modules are taught - The intended learning outcome.	Semi-structured interviews	Members staff of 6 Universities from Jordan Members staff of 9 Universities from Jordan	Chapter 7
Identifying competencies	Obtaining consensus and validation from a penel of experts	Delphi technique	13 Practitioners 10 Educators	Chapter 8

Table 3.1. Overview of research methods

The proposed competencies were derived from the literature review and the analysis of interviews. The validity of the identified competencies was derived from their ranking by an expert panel of academic and professional experts.

3.8.2 Triangulation

Triangulation is an effort to outline and describe more clearly the richness and complexity of human behaviour by studying it from more than one standpoint (Cohen and Manion, 1986). Triangulation acts as a validity procedure where researchers search for convergence among multiple and different sources of information to form themes or categories in a study.

Many researchers have recognised triangulation as a useful approach to performing social research (Creswell and Miller 2000; Bryman, 1996; Denzin,1970) Denzin (ibid) identified four forms of triangulation:

- Data triangulation (several sampling methods and different groups of participants)
- Investigator triangulation (more than one researcher involved in the collection and analysing of data)
- Theoretical triangulation (the use of more than one theoretical position in analysis of the data)
- Methodological triangulation (using more than one method of data collection)

Data triangulation was performed through the collection of data from a variety of sources, ensuring a multi-stakeholder perspective. For example, participants included design practitioners, design tutors in universities and colleges, sign manufacturers, and sign users who were interviewed about their practice, sign design and local

signage systems. Methodological triangulation was achieved through the use of a mixed method approach.

Using a variety of methods ensured that information that may have been missed during one round of data gathering could be gathered in a different stage of this multi-method approach. The studies used in the collection of data where both qualitative and quantitative. The results of these different studies complemented each other, and broadly agreed, increasing the validity of the results.

3.8.3 Qualitative studies

Qualitative studies tend to be concerned with providing descriptions of phenomena, whilst quantitative studies tend to be concerned with measuring particular observable aspects of them. In this research qualitative methods were used to investigate in-depth the motivations, feelings and reactions of selected groups towards sign issues, by listening to them and analysing their way of expressing themselves in semi-structured interviews in addition to a case study. The results from semi- structured interviews were contrasted and merged with the results from the case studies.

3.8.3.1 Semi structured interviews

Semi-structured interviews follow the model provided by Darr et al. (2003), using literature reviews to provide topics for discussion and investigation within a research project. Semi-structured interviews with design practitioners, members of the sign industry, design tutors and sign users were employed to discuss issues related to sign design, including the designers' role, signage systems and perceptions of signage, and the role of design education.

Interviews provide a way of collecting rich data from a limited number of

participants and can help researchers to identify problems and solutions. They enable researchers to interact directly with participants and investigate their opinions. Interview styles vary from the highly structured schedule to the completely unstructured 'conversational' style. The semi-structured style of interview allows flexibility for both participant and researcher to improvise within the conversation, whilst also giving the encounter enough structure to create a fruitful discussion that remains 'on topic' (Kvale 1996). Additionally they enable the same issues to be discussed with different participants.. However, they are time-consuming. This can be overcome to some extent by interviewing a carefully selected, representative number of participants (Baber and Stanton, 1996).

The effects of interviewer bias were minimized by avoiding leading questions, questions likely to elicit socially desirable responses, avoiding the use of body language or verbal cues which would reveal the researcher's own opinions on the subject and through careful construction of the questions and interview format. Open questions were asked and the respondent was given time to answer these freely.

3.8.3.2 Case Studies

Two case studies were undertaken. Case studies enable the researcher to explore a single entity or phenomenon confined by time and activity (e.g., a program, event, institution, or social group). The detailed data forming a case study is collected using a variety of procedures over a sustained period of time.

Case studies are defined in various ways and embrace many different practices. A definition compiled from a number of sources (Benbasat and Yair 1984; Bonoma 1985) in Benbasat, Goldstein, and Mead (1987) runs as follows: A case study examines a phenomenon in its natural setting, employing multiple methods of

data collection to gather information from one or a few entities (people, groups or organizations). “The boundaries of the phenomenon are not clearly evident at the outset of the research and no experimental control or manipulation is used.” (Benbasat et al 1987, p370). In this research the case study of McDonalds signage was approached to investigate and understand the role of the designer in relation to brand signage, the impact of regulation and its constraints.

3.8.4 Quantitative studies

A more quantitative approach was taken to ascertaining agreement on competencies and their relative importance. Quantitative research assumes that the researcher can define each variable in accurate and meaningful ways, outside of the context of the culture and setting of the behaviors, individuals and groups being studied (Tewksbury, 2009; Taylor and Bogdan, 1984)).

3.8.4.1 Delphi method

A modified version of the Delphi Method was used to identify significant competencies in sign design. This enables an expert panel to form a reasonable level of consensus through rounds of rating (Rowe and Wright 1999; Dunham 1998). The technique was developed in the early 1960s by the RAND Corporation, as a forecasting methodology (Gordon 1994). It was then adapted to become a group ‘decision-making’ tool (Dunham 1998; Cline 2000) and as such has been widely used for structuring group communications, for facilitating group problem solving and structuring models (Linstone and Turloff, 1975).

The Delphi process is usually conducted in three stages. Stage one is the selection of the expert panel. Stage two consists of the submission, assessment and feedback of the questionnaires. The final stage consists of the final analysis and

conclusion (Kerr 2001). In this research the Delphi method was used to gain consensus about competencies from a panel of 23 experts drawn from a pool of academics and senior members of the sign industry.

The validity of the Delphi method as a research instrument is suggested by its use in a number of previous studies as shown in Table 3.2

The Study	The Purpose	Reference
Comparative study of interior design programs in South Korea and The United States	To develop a rubric among professors in institutions in South Korea and the United States	Lee 2005
Identification of the significant competencies in Graphic Design.	To obtain consensus and validation from a panel of experts in identifying the essential competencies in graphic design.	Yu Wang 2006
Importance of technical competencies in the graphic communications technology curriculum as perceived by the graphic communications industry and educators	To obtain consensus and validation from a panel of experts in Identifying the Technical Competencies in the Graphic Communications Technology Curriculum.	Dharavath 2003

Table 3.2. Studies in Art and Design that have employed Delphi method

3.9 Conclusion

The findings of the above investigations were used to identify the necessary competencies involved in the development of sign design teaching in Jordan. During the final stages of identifying competencies it became clear that these should include and emphasise industrial/ commercial concerns, and the importance of including these in the curriculum.

The range of findings and the quality of the information and data obtained (and presented in Chapters 4, 5 and 6) have confirmed and legitimised the methodological choices. Chapter 4 presents the findings of the surveys conducted in Amman. Throughout the project, the methods employed maintained an interpretivist

stance, as appropriate to the subject matter, namely, the judgement of individuals upon the quality, meaning and educational needs of sign designers.

Chapter Four: Investigation of the perception of signage in Amman

4.1 Chapter outline

In this chapter, I interpret my initial observations of signage in Amman through an understanding of environmental signage and the way in which sign design is conducted in Amman. The observations are augmented by studies conducted by two Jordanian scholars, media releases and an interview study with representatives of the wider interest groups.

4.2 Introduction

The rapid expansion of Amman has created a situation in which zoning restrictions have not always been enforced followed. Residential districts have evolved into commercial and industrial areas and vice-versa. Previously low-rise neighbourhoods now host high-density buildings, thus creating areas of development that are not attractive. Furthermore, some developments are clearly out-of-scale with the neighbourhoods in which they have been located. This expansion and its haphazard nature has affected the urban environment (Shami, 2007). Commercial signage is just one factor in this (Figure 4.1) and it appears haphazard and opportunistic. Historically, it was not subject to regulation and does not appear as an integrated part of the environment.

Signs can help in creating an easily recognisable and distinctive public space in a city, which is necessary for the survival and growth of many institutions (Gibson, 2009; Nasar, 1997; Follis and Hammer, 1979; Calori, 2007). This positive role depends on the designers' understanding and awareness in taking up the creative challenge of integrating signs and architecture by a holistic approach, thus creating an object of beauty and contributing to the visual environment. Sims (1991) suggests

that it is obligatory upon the industry to provide a more comprehensive level of service to their customers, and that should mean a far greater involvement by sign designers.

Figure 4.1. A residential district which has become a commercial district showing a plethora of signs

4.3 Common observations in Amman

As a resident of Amman, I have witnessed its growth and the increase in the number of signs over a number of years. In particular, my perception of this as a problem was alerted in1999 when I came to believe that signs were detracting from the beauty of Amman. This section details some of my initial observations regarding this trend.

Amman is Jordan's dominant urban centre (Figure 4.2). Although it has only about 40 per cent of the country's population, it is responsible for 70 per cent of the country's economic activity.

Amman is a large city in the context of Jordan and works like many larger cities

in the world that function perfectly well. Estimated population of Amman at end-year 2011 is 2,419,600 (DOS, 2011). The size of Amman is currently acceptable and manageable. However, considering Amman's fast rate of growth, there is no guarantee that it will remain so (Al-Asad, 2004b).

Figure 4.2. The Amman map was originally designed circa 1995 by Salua Qidan

As has been previously discussed, signs are essential to understanding complex built environments they are semi permanent and can have positive or negative affects on the environment (Alrai, 2006, Al-Ghad, 2010) (Figure 4. 3).

Figure 4.3. Examples of positive and adverse signs in Downtown Amman

Commercial signs by their presence, size and appearance can contribute to the efficient functioning of many activities, for example by:

- Advertising goods and services
- Identifying individual premises so that they are easily located
- Providing directions and information
- Adding a pleasant aesthetic to the cityscape

In creating effective signs, designers should analyse the architectural, cultural and aesthetic factors of the location to ensure that the signs meet the needs of users and integrate with the environment. Follis and Hammer (1979) stated that this should be achieved by the application of visual communication skills knowledge of appropriate materials, methods and technologies.

Commercial signs can have an adverse effect upon a cityscape when they are not seen as blending acceptably with other components of the built environment. In such cases they can effect amenity values, the safe and efficient functioning of the road network, and add to visual clutter. Hoarding signs in particular seem to have an adverse effect on the functioning of a city (Gore District Plan, 2006). Amman's residential, recreational and community activity areas are sensitive to the adverse effect of commercial signs. Therefore, the regulation of commercial signage is necessary. The current strategy is to place controls on the design, size, location and frequency of signs. Another approach would be to ensure that the creators of the signs understand their responsibilities and have sufficient skills to design appropriate signs.

Abu Ghazzeh, (1996) suggested that a commercial sign regime should define what percentage of "signable" wall area can be covered by a graphic display."No sign or graphic display should be allowed to violate the architecture of the building to which it is attached". (p262). Figure 4.4 shows an example of the contravention of this principle, which are arguably to the detriment of the environment and amenity values (Figure 4.5).

Figure 4.4. Signs hiding part of the building fabric in Gardens St.

Figure 4.5. Oversized and clashing signs in Meka Street

Signs that adversely affect amenity values may also reduce people's appreciation of an area's ambiance and aesthetic coherence (Abu-Ghazzeh, 1996;

Nasar, 1988a). Importantly, adverse effects are caused not only by the proliferation of signs, but also by their poor design, colour, location, size and placement (Figure 4.6).

Figure 4.6. Overwhelming signs in downtown.

The heritage and townscape values associated with buildings are individually and collectively recognised in the municipal city plans. Signs which are unsympathetic to these values in terms of their design, colour, size, placement and location may adversely affect those values. Footpaths and other pedestrian spaces in urban areas compete for the space demanded for the erection of signage. Signs in pedestrian areas can create obstacles, impede access to public transport and increase the risk of injury to pedestrians (as shown in Figures 4.7a and b).

Figure 4.7a. Confusing signs at different heights in pedestrian areas in Downtown Amman

Figure4.7b. Overwhelming signs in different sizes in pedestrian areas in Downtown Amman

In conclusion, my initial observations led me to believe that the signs did little to increase the beauty of the city or enhance the amenity levels. Indeed they covered such large areas of the facades that the original architecture was hidden from view. In certain situations, they were obstructions and even hazards. Additionally the sheer number of signs may actual hinder people in locating the retailer or service provider they were seeking. The signs themselves are constructed from different materials, with no consistent design or agreed standard. It would seem that businesses believe that the larger the sign the more effective it is. In order to further understand whether others shared these opinions I conducted an interview study with representative stakeholders. This is presented in the following section.

4.4. Attitudes towards signage in Amman

4.4.1 Introduction

As early as 1996, Abu-Ghazzeh made known his opinion on the signage in Amman and its role and impact on the environment. He suggested that commercial signs should be an expression of good architectural taste and skilled design and that they should harmonise with the surrounding environment. He felt that a sign control regime, if developed, should be concerned with the aesthetics of buildings and streets, and provide clear, simple standards for reviewing signs individually, if necessary.

Later in 2004b, Al-Asad commented on the state of signage in Amman, stating that Amman faced a serious problem with billboards and signs. He said that:

> ‘‘In Amman (and generally in this region as a whole), we face a serious problem with billboards and signs. When examining building signs (the billboards polluting the sides and medians of street and highways are the subject of a separate investigation) we face a state of almost complete visual chaos.’’

The images shown in the previous section, taken in 2007, clearly show that despite these comments little effort had been made to improve the situation, either by businesses, design professionals or the authorities. When the interviews were planned, it was not anticipated that there was going to be a change in the regulations which would immediately be enforced.

The Greater Amman Municipality had previously enacted regulations and laws to control and manage the erection of signboards in the city. In 1985 a law Licensing system for the advertisement means in the capital of Amman No. (57) of 1985 issued under article (41) of the law regulating the cities, villages and buildings No. (79) for the year 1966) was revised, which was regarded as both comprehensive and complementary.

In 2006 regulation 873 was passed by the District Committee for Planning and Buildings for the Amman area, which was in accordance with the Regulation of City Planning and Villages and Buildings (No. 79) of 1966.

At the beginning of 2006 the first phase of the new regulations relating to billboards was enforced in an attempt to reduce the clutter of advertisements covering building facades. A year later (2007), GAM sought the removal of all signs from the upper floors of building facades and roofs, with the intention of giving Amman a cleaner look. This was implemented quickly and without public consultation or reflection on the consequences.. Some businessmen felt that this hurt trade, but did not stem the visual pollution plaguing the capital (Jordan Times, 2007).

The initial interviews were designed to gauge public opinion regarding the nature and density of signage, its relationship to the community and its impact on architecture and the environment. The interviews would therefore have tested my hypothesis that

signs were seen as a source of clutter in Amman. Such results could have been used to formulate policy. With the sudden implementation of the new regulations the interviews had to be rapidly refocused as the situation for which they had been designed no longer pertained.

4.4. 2 Aims

The interviews were adopted to gather opinions about the new situation, the way the regulations had been implementation, the problems that had been caused, and to understand how the public perceived the future of signage in Amman. Similar questions were asked of sign designers and additional information was gathered about how signs were commissioned The overall aims were to understand:

- the rationale behind the signage legislations,
- the attitudes of Amman Municipality, the sign industry and the public to the new legislation and its implementation,
- how the municipality identified goals and developed plans for future legislation,
- how the development of future guidelines could be better informed.

4.4. 3 Method

Semi-structured interviews were held with 7 members of the sign industry, 70 members of the public and The Director of the Advertising Department, Greater Amman Municipality.

The public were interviewed in the commercial areas of different districts and commercial streets (Al-Sweifyah, Wasfi Eltall Street, Jabal Elhussein, Shmaisani, and Down Town), in order to gain an understanding of their opinions about the signs and their functions. The owners of premises, shops owners and company managers were

chosen at random and interviewed in their offices. They were asked questions regarding the signage system, the present situation regarding the removal of signs and how well they located places for navigation (Appendix 2).

4.4. 4 Results

Together, the interviews provide information about how members of the public and business owners viewed the introduction of the new regulations and their effects. Although GAM could have conducted similar studies to assess public opinion and the effects of the legislation they did not do so; neither was their legislation informed by consultation with relevant expert groups. As such the comments from members of the signage industry are particularly relevant,

The results highlighted the fact that the regulations were implemented too quickly and did little to break the hold of special interest and other powerful groups, who considered themselves above the law. The results are presented for each of the groups in turn.

4.4.4.1 Interview with the Greater Amman Municipality

To understand the rationale behind the signage legislation and the attitudes of GAM, a semi-structured interview was conducted with the Director of the Advertisement Department.

4.4.4.1.1 Enactment of Previous Policy

Ten interviewees felt that the Amman Master Plan did not introduce a clear signage regime as part of its provisions, and thus did not mandate best practice. They remarked that new signage policy was not covered in the plan even though the

Director of the Advertising Department had himself referred to a new policy towards commercial signage when interviewed by the researcher.

Interviewees, notably a flower shop owner, also pointed out that the master plan coincided with the lunch of a new logo for the city, intended to provide a brand identity for the city of Amman but which they feel did not work with the master plan.

As previously stated, 10 interviewees highlighted regulations relating to the use of signs in the urban areas in Jordan which was first introduced in 1960 but were not actually enforced until their revision in 2007. The Director of the Advertising Department asserted that the previous regulations did not form a clear policy statement because they did not limit the quantity, size or location of the signs or provide any way of monitoring or enforcing compliance. He felt that these failures were responsible for the chaos created by the signs placed on building elevations.

4.4.4.1.2 Achievements of the new policy

When asked about the achievements of the new policy the Director of Advertising stated that billboards cannot obstruct pedestrian walkways or cause a distraction to motorists. In addition, they should not exceed 90cm in height and 20cm in depth and cannot be posted on top of buildings that are licensed for commercial or housing purposes. However, they are allowed on top of industrial structures.

He suggested that the new regulations were enforced as a matter of urgency to address the explosion of signs in the city and the resultant damage to the cityscape and environment.

4.4.4.1.3 Design Approval

The Director highlighted the importance of controlling the design of a sign so that it integrates with the architectural environment. He also explained the new procedure for obtaining consent to erect a sign, which included the need to present a photograph of the proposed location. His comments are illuminating

> 'In order to ensure the safety of the structures of signboards, anyone who wants to have any signboard erected must have prior approval and consent from the Advertising Department at GAM. We may refuse signboard consent for the following reasons; the signboard is detrimental to the visual amenity and contributes to visual clutter, in size, design, and location.'

He admitted that few of his departmental colleagues had a thorough knowledge of sign design and that it was not clear who would evaluate the appropriateness of a proposed sign design and its characteristics. He added that equally there was confusion as to the standards governing the type, size, height and number of signs permitted on a building.

These points to a need for the creation of a specialized team within the authority to evaluate proposals. Ideally, this should comprise design specialists such as architects, graphic and urban designers. More formal education in sign design would provide designers (and officials) with the knowledge needed to evaluate proposals, arbitrate in exceptional circumstances, and inform policy.

4.4.4.1.4 Greater Amman Municipality's relationship with the sign industry

Doubts over the relationship between the sign industry and the GAM were also expressed. The Director of the Advertising Department said:

> "We consider the sign industry to be a main partner in developing the signage system, and we do consult them in some issues and we may take their opinion".

This is interpreted as meaning that whilst GAM may listen to suggestions from the sign industry, it may not act on them.

4.4.4.2 Interviews with members of the public and business owners

4.4.4.2.1 The impact of regulations on businesses

Interviewees accepted that sign regulations are necessary in order to protect the city from confusing and dangerous visual pollution. However, they feel that the objective of the sign control systems is used to justify regulations, but these may restrain businesses owners in competing for advertising space. Businesses owners in Amman perceived the removal of their signs as overlay restrictions. The implementation of the revised signage regulations was perceived as causing a major upheaval for businesses in both the short and long term. They felt that the regulations showed a lack of consideration about the part commercial signage plays in both commercial and some residential districts, and how this is a factor in community life.. Examples of comments from owners of commercial enterprises included:

A florist said:

> ‘‘The new regulations are focusing on aesthetics and are not taking into account our needs as a small business in which we rely on signs to attract customers. It is not only me who is complaining, if you investigate you will find it is owners of shops, stores, offices and companies who would be forced to modify or remove their signs. I think that this regulation limits our freedom to announce our presence to the public. I do not think that the new numbering system for buildings and streets will help, we are not used to navigate to locations in this way, people look for signs or refer to a prominent store.’’

Another interviewee was nervous and disappointed as he was required to remove his shop signs following the new regulations. He said:

> ‘‘They did not give us alternatives. People used to locate my shop through the facia this sign, and now I need to fix a sideway facing sign to enable them to know the place’. The regulations were advised to me on an A4 sheet, I felt this was not clear or precise correctly and the regulations are not workable with most of Amman premises, because of the buildings’ design differences.’’

When business owners considered the new policy, specifically the removal of all signs, they were concerned about the resulting financial loss. Consequently, it was found that those who were suffering financially from the results of removing signs were against the policy (shop owners and landlords of commercial buildings). An owner of a ready to wear garment shop in downtown said*:*

> ‘‘They removed my signs early in the morning, at two o’clock, I refused to remove the signs because I know that the municipality do not know what they are doing, they do not have a previous study or present solutions; that is why we could not fix a new sign (approval of new sign design by GAM). The new regulation did not consider the design of our building and how our stores are exposed to sun and rain, I have lost 6000 JDs, the cost of all signs in my four shops in Downtown.’’

However not all business owners were upset by the changes. An owner of a menswear factory located in downtown Amman said:

> ‘‘The situation has improved as a result of the new sign regulations. The new regulations give justice to everybody, since the regulations are implemented on all size wise, distance wise but it has been forbidden for us in the upper floors to expose our identity by signs.’’

In downtown Amman, merchants felt that they had suffered financial loss. They were not compensated for the removal of the signs, the amount of external advertising they could have for their businesses had been curtailed, and the removal of large signs exposed their premises to extreme weather conditions. They said that they could not get approval for proposed new sign designs or guidance on what the municipality considered appropriate. These factors explained the lack of compliance with the new regulations in downtown Amman (Figures 4.8,8a,8b,8c and 4.9,9a,9b,9c).

Parts of the images on this page which could be used to identify individuals have been removed for data protection reasons. The unabridged version of the thesis can be viewed at the Lanchester Library, Coventry University.

Figures 4.8. Shops are exposed to extreme environmental conditions (sun and rain) after the removal of signs which protected their facades.

Figures 4.8a. Shops are exposed to extreme environmental conditions after the removal of signs which protected their facades and their replacement with awnings to provide partial protection.

Figures 4.8b. Shops are exposed to extreme environmental conditions (sun and rain) after the removal of signs which protected their facades without any alternative protection being applied.

Figures 4.8c. Shops are exposed to extreme environmental conditions (sun and rain) after signs of a reduced size and depth have been fitted.

Figure 4.9. No effective design is seen to solve the problem of signage in Downtown Amman, 2012.

Figure 4.9a. No effective sign design implemented to complement the architecture and solve the problem of signage in Downtown Amman, 2012.

Figure 4.9b. Different building facades with inappropriate sign replacements in Amman, 2012.

Figure 4.9c. Inappropriate signage obscuring facades in Amman, 2012.

Figure 4.10. Some signs remain in defiance of the new regulations in Amman, 2012

The comments indicated some support for the new regulations, but clearly the way that the regulations have been implemented had caused a certain amount of confusion and unnecessary expenditure. Additionally the newly exposed facades (as shown in the above figures) are now an additional eyesore, as some signs camouflaged lack of maintenance and had caused structural damage/change when they were attached.

4.4.4.2.2 Unexpected Conflicts

The removal of signs from doctors' premises and those of pharmacists created a conflict between their associations and Amman municipality. The removal of the signs from the roofs of medical clinics meant a reduction in business as members of the public and tourists were unable to locate the clinics by their signs.

A dentist expressed his point of view about the signage system in Amman:

> ‘‘The situation now is unclear, and our clinics need signs to be recognised and easily located, our customers locate our sites through signs, I think that our association and the municipality has agreed on a new solution that will be accepted by both parties. The situation would be better if the municipality were able to give us and others practical and functional alternatives before removing signs. Medical clinics located in different premises and buildings do not have the same character or design. Each building needs a special solution. What has been offered by the municipality does not work with all sites.’’

Whilst a physician, in a district called Etlla’a El Ali, stated:

> “Recently the signage system is not clear, not clear at all”.

4.4.4.2.3 The Perception of the Change

Opinions about the effects of the new regulations were divided. Some were in favour whilst others found faults with the new regulations. One example is provided by business man:

> ‘‘Our city needs quick interventions. One of them is the sign epidemic. Responsible for this for decades were the lax building codes (or their lax implementation) that resulted in complete facades being covered up in tasteless, chaotic visual junk. Also responsible for this is the total lack of aesthetic awareness among shop and building owners, who only care about one thing that their sign is larger than their neighbours.’’

He added:

> ‘‘The new regulations are not comprehensive solutions; still there are many other measures, which must be taken related to urban design, sign design, and many other issues. Yes, the way the municipality treated the signs’ situation in Amman was not a right action, as it was clear that the municipality was not aware of some consequences in some districts of Amman, as a result of the way of executing the new regulations.’’

Another interviewee highlighted the fact that when the new regulations were enforced many people were against them. This seemed to be because of the way they were introduced, without consultation or explanation. If there had been a more measured introduction (neighbourhood by neighbourhood) people would have had time to adjust and a study could have been made of the effects the regulations were

having. Prior warning of the Municipality's intentions would also have given business owners more opportunity to plan their new signs.

Another view, that of a shop owner was that putting the responsibility in the hands of a zoning or code enforcement officer who may have little connection to the professional planning staff who influenced and guide the overall community design programme and policies was flawed.

A taxi driver commented 'we got used to the grey clouds (signs) and now we have to acclimatise ourselves with the new look.' (Figure 4.11,11a).

Figure 4.11. Gardens Street after the removal of signs

Figure 4.11a. Gardens Street after the removal of signs

Members of the public in general welcomed the clean facades of the buildings, especially those who had considered the signs to be a source of visual pollution and felt that they had destroyed the aesthetics of buildings and the surrounding environment (Figure 4.12 a, 4.12 b).

Parts of the images on this page which could be used to identify individuals have been removed for data protection reasons. The unabridged version of this thesis can be viewed at the Lanchester Library, Coventry University.

Figures 4.12a, 4.12b. Before and after removing signs

4.4.4.2.4 Perception of design

Members of the public and businesses generally agreed that the amount of visual pollution had been reduced but that there was disharmony between the regulations, the sign design and the type or style of building. The quality of the designs themselves was not considered in the regulations (Figures 13a, 13b). An owner of a shop at Gardens Street said,

> ‘‘Architects do no not consider signs in their design for a commercial building and sign designers do not consider architecture differences…” “…still people are not aware of the purpose of signage in an aesthetic perspective.’’

Figures 4.13a, 4.13b. Two signs differ in design, material and shape because of the difference in the mechanism housing the security shutters which impacts on the size, design and shape of the sign.

The owner of a shop at Gardens Street said,

> ‘‘I do not see real sign design; all signs are the same in shape and style, it is an added box to the building. The difference is in the content which says that this store is a pharmacy or a grocery.’’

A medical store employee said:

> ‘‘the new regulation has reduced the visual clutter which was caused by using huge size signs, covering the facades of the buildings, I doubt that we have sign design in its real core meaning, and I do not think that we have sign designers, many software drivers consider themselves designers.’’

A manager at a PC store said,

> ‘‘just looking to the local enterprises and the international brands such as ZARA (Figure, 7.14), GAP, can allow you to notice the difference in the standard of sign design, local ones are totally different in style, size and material, to be honest only those who copy international one. But those who are based on the international brands are totally different and work different it is more incorporated with architecture. By the way, who design signs (they) are themselves the sign makers, there are excellent manufacturers but I doubt that they all are having specialised designers.’’

Figure 7.14. Zara stores in Brands Streets, Sweifyeh Amman

The results from the interviews with the members of the public are summarised in Table 4.1. This table suggests that a number of Amman citizens had become used to the old situation, with the presence of large numbers of signs on buildings, and five per cent of the interviewees expressed this by saying that the city looked ‘naked’. On

the other hand, people said that driving a car now in Gardens Street (Wasfi Altell St.) was much better, as the street was highlighted with no distractions. In general, Amman citizens looked forward to strict regulations that would resolve the issues related to commercial signs and their location on the facades of Amman buildings, whilst preserving the architectural identity of the different districts. Some members of the public felt such problems were easy to solve.

Percentage of sample	The case
95%	Believed that culture and personal taste had an impact on sign design and location.
95%	Had no previous awareness of the new regulations.
95%	Believed the Greater Amman Municipality to be responsible for the clutter and visual pollution. At the same time they considered the Signs Industry and advertising companies were partners in this.
85%	Agreed that signs were used as navigation tool with the absence of building numbers and street names.
85%	Described the new situation as good, better or much better.
75%	Were not satisfied with the new regulation, as it is not a comprehensive solution.
15%	Described the new situation as unclear.

Table 4.1. Summary of comments

4.4.4.3 Interviews with designers

Graphic designers were interviewed about the state of the signage system, and the extent to which their training enables them to work in the current climate. It was clear that designers should understand how to solve the planning and functional problems of commercial signing.

A graphic designer stated that:

> ‘‘The situation now is better, now we do not see small shops placing three signs, and buildings pasted fully with signs that hide the architectural identity. With the new street numbering system the Municipality is intending to organise things and make addresses easier to find as it contains street names and number of buildings. Hope that it will be better than the old system in shape, design and function, sign designing in Amman needs new design principles.’’

Another designer stated:

> ‘‘The removal of signs has helped in reducing the ugly appearance of signs on buildings. But still there are some weakness in some locations. Customers before the new regulations were free to choose the size of the sign and location for the sake of competing each others, not only shop but also the private clinics.’’

Another designer stated that he just now realised the difference.

> ‘‘True the buildings look better now after the removal of signs. I have just realised the change. It is much better, but still I think the new regulation could not control the sign design. The remaining signs on the ground floors do not work well with some facades.’’

A designer stated that the new signage regime had caused him to think deeply about sign design. He said:

> ‘‘It is not only the Municipality and sign industry responsibility. It is a problem with the architects who design the building and the designer who design the sign. None of them think about the sign role in creating a place.’’

4.4.4.4 Interviews with representatives of the sign industry

Since its recognition in 1940 the sign industry has witnessed many changes, especially in relation to technological advances in production and communication. The sign industry cooperation in Jordan does not involve or bind all sign manufacturers. This has not improved the caliber of entrants to the sign industry or the quality of workmanship. Most of the sign manufacturers are not designers, they are a mix of calligraphers, engineers, craftsmen, and business men, those who had interest in investing in this profession and hired people with sign manufacturing experience after the introduction of computer.

Seven members of the sign industry agreed to be interviewed, these come from both large and small firms. The aim of this selection was to understand the opinions of all members, no matter their economic position or level of seniority.

4.4.4.4.1 The impact of the new regulations

The participants disapproved of the way the regulations had been implemented. Five members supported the removal of signs and were in favour of forming a plan to organise the situation better.

The Managing Director of the largest sign company in Jordan agreed with the need for new regulations, but thought it was too early to evaluate their impact:

> ‘‘We totally agree with Greater Amman Municipality, Amman needs new regulations that will help in organising the commercial signage system. Now we cannot evaluate the outcomes of the new regulations, as just a few months have passed since it was enforced. I do not consider it a new regulation, it is a reinforcement of regulation and a limitation to the size, location and number of signs.’’

The executive manager of another company also believed that there was a need for regulations but that this had not been promoted well to the public:

> ‘‘Yes, Amman needs new regulations to control the (big) amount of signs in the streets and on building facades, GAM has enforced these regulation, but unfortunately did not promote this to the public, to make them aware of the reason for changing and what possibilities and alternatives they have.’’

The owner of another sign-making firm said:

> ‘‘The situation now is organised, new regulations are more concerned with quantity, size and location. This way we know that the regulations help us to make the situation better. We used to fulfil the customer need, no matter the size or the quantity of signs he needs, as it was permitted so we will bring satisfaction to the customer.’’

The participants stated that the new regulations may create a rift between the planners and the sign industry, resulting in a lack of engagement in any discussion beyond zoning and coding issues. The new action towards commercial signage in Amman has also created regulations that ignore the benefits of signs and buildings including economic development through increased commercial activity.

One sign industry member, however, questioned the rationale behind the changes, suggesting that there was no need for change at all; comparing his industry to that in other areas of advertising such as newspapers and magazines.

> ‘‘It is not a matter of a new situation or an old situation, the question is why we are doing this? Who asked people to remove all advertising devices? Why at this time? Is it because signboards and billboards started to be the number one in Amman advertisement industry, and most popular? Is it because the customer pays for a month on a billboard less than what paid for a day in a magazine or newspapers ad? People are confused about the purpose of the advertising industry and sign industry; we should separate these from the signage system. As a company we are sign industry and? We are advertising industry, we sell services that help to advertise, we create concepts and signs might be part of it. Concerning the corporate signs I would like to confirm that the situation has reached the stage of being a clutter which requires organisation. The situation might be better but still it needs more focus.’’

4.4.4.4.2 The Design Process

The interviewees from the industry were asked to comment about their design process and the way that they implemented their project from receipt of the specifications through to the delivered product.

It emerged that the designers joined the industry without awareness of the design process stages required for a satisfactory outcome.

The process was also revealed to vary considerably between the large companies and smaller practice.

In discussing the sign design process, a manager of a large company said:

> ‘‘Once we receive the design brief we start dealing carefully with it, but it depends on the type of signage project, there are some huge projects which require a careful design process from the understanding of the project aim to the proposed prototype…”

> ‘‘…we plan each stage and we get approved by the client, most of this work is done in our design department…” ”…we train the designers and equip them with the needed training, mostly planning for signage system, use of typography and symbols, and type of material, of course they do not have at college.’’

A technical executive elaborates:

> ‘‘Our designers learn how to deal with the design process here in the work field, they do not learn it at college, most of the skills are learned while working…” “…There are some technical issues that designers need to understand such as the materials used and the manufacturing process, the case is not only how to design…’and continues.’’

> ‘‘…We deal with design agencies who mostly prepare the design brief based on their design concept, we deal only with the manufacturing stage, or making the prototype. There some projects which require us to prepare everything. We have our in house design department as well…’’

The owner of a small firm said;

> ‘‘Once the customer explains what his needs are I sit with the designer and I explain what is required, we do not deal with these terms such as design brief and design proposal.’’

All interviewees have mentioned the importance of the design process, and stated that the sign industry members consider the designers’ lack of knowledge regarding the process of designing and manufacturing signs. In others words designers may be able to design by using computers software, but it is difficult for them to translate the design into physical products. They stated that they provide the designers with the needed training and knowledge. In a way that a designer need to create practical, artistic and effective signage that integrates with the building. Therefore, commercial sign systems should be well-designed and strategically located, resulting in a minimal number of signs. It is important to adopt a design process method that helps in executing and managing the project. The design process (as discussed in Chapter 2) shows that major phases include programming, conceptual design, schematic design, design development, construction documentation, bidding and negotiation, shop drawings, and construction administration. So how does Jordanian industry talk about the design process.

Unfortunately, graphic design courses in Jordan do not allow for students to focus on a particular discipline such as sign design, and do not cover many of the activities in other parts of the curriculum.

4.4.4.4.3 Collaboration

Not all members of the sign industry felt that they had a positive and fruitful relationship with the GAM. They mentioned that the Municipality does not consult them regularly, and if they are consulted their opinions may be disregarded.

On the one hand, a member of a large sign industry firm, said:

> ‘‘Our relation with municipality (GAM) is a partnership based on full co-operation and consultation, we offered the municipality our advice and opinions, we observed all signage regulations. We are part of it.’’

But another member of a different sign industry firm said:

> ‘‘We do have a good relation with municipality (GAM), they do consult us sometimes, but frankly I do not find that our thoughts and opinions are executed or have been implemented.’’

Whereas the owner of a smaller design firm said:

> ‘‘We do not deal with GAM, and they do not deal with us, we contact them asking about any new regulation or sometimes to get a consent for a sign placement.’’

From the interviews it seems that GAM consults only with the larger companies, and that the relationship was irregular, unbalanced and lacking in structure. The new regulations and the way in which these were implemented exposed the superficiality of the relationship and the need for wider consultation with interested parties, for collaboration and co-operation between GAM and the sign industry as well as others, such as designers and architects.

There were also suggestions that prior to 2007 the sign industry had already submitted a number of suggestions regarding sign locations, size, and materials, which had not been responded to. They also mentioned that the removal of signs has caused lost investments and had affected hundreds of workers in the sign and advertisement sectors (Alrai, 2006). However, the Greater Amman Municipality remained committed to the removal of all commercial signs and to not renewing the consents.

The sign industry is a developed sector. It helps businesses and organizations inform the public about their location and takes advantage of a low-cost form of advertising. They are willing to co-operate with GAM to achieve its aims for a signage regime which balances the functional and aesthetic roles of signage.

The owner of a sign firm at Tla'a Al-Ali district in Amman said:

> ''…the firms dealing with sign making in Jordan are rapidly growing, however, with the expansion of technology , it was easy for business men to join this sector. Many of these are less specialised in understanding sign systems, techniques and design which creates a critical situation where standards are being lowered in this industry. There was a need for a more organised sign industry that will exercise more control on all methods practised by signage firms and this require a great collaboration with the Greater Amman Municipality.''

4.4.4.4.4 Responses to lobbying

Members of the sign industry have complained about the changes brought about by the new legislations to Raed Qaqeesh, a member of the Jordanian Assembly. The assembly member's response was a written memorandum to the Mayor of Amman in which he asked for:

- Clarification of the new regulation and legislation

- Explanation of the negative and positive aspects of the recent situation with the commercial signs
- A description of the new principles for locating and erecting commercial signs and if this will be imposed on the sign industry and the advertising agencies
- Information about the locations and priorities for measures to be taken for beautifying Amman
- Information about the social, economic, and political aims for beautifying Amman
- The type of study the Greater Amman Municipality has adopted for investigating the situation and proposed the solutions.

Following the letter of Mr Qaqeesh, the sign industry and advertising agencies met the Mayor of Amman in June 2006 to discuss sign industry complaints. In this meeting the Mayor explained the plan for beautifying Amman and that the municipality intended to remove the advertising signboards on the roofs, and all signs placed on the upper floors. He asked them for their opinions and suggestions on this, which shows that they were consulted after the declaration of the new regulation rather than before.. The discussions appeared to have focussed on the nature of the regulations – which would provide increased income for the sign industry as opposed to trying to understand how the situation had arisen and the need for signage that works well within the architectural environment. This requires more than just a regulatory framework.

In support of the previous theme, those in the sign industry expected that their opinions and suggestions would be largely ignored.

4.4.4.4.5 Competition Creates Clutter

The sign industry members mentioned that before 2007 the large number of differently shaped and sized signs was a result of competition between shop owners, who thought that larger signs give a more favourable impression of their businesses. In the absence of regulation and enforcement, the owner of the store or corporation placed larger and larger signs in as many prominent positions as possible; aiming to be perceived as a substantial business. Sign industry members argue that they were not responsible for this clutter as they were just following the clients' brief.

This seems to lay the blame squarely at the feet of the business owners and those requesting signage - not those who create the signs. At the same time it shows that designers do not play a great role towards educating the clients. Designers should be trained to create a dialogue and know how to communicate with clients. This also shows the absence of awareness the large role of sign industry.

This is a clear indication that the regulation that was introduced in 2007 was much needed if the concept of 'bigger and more is better' was to be halted. This was reinforced by a comment from a member of the public who suggested that the regulations were needed:

> 'Also responsible for this is the total lack of aesthetic awareness among shop and building owners, who only care about one thing that their sign is larger than their neighbours.'

The problem requires education at a number of levels. It was not only a competition between the businesses but also a competition between the sign manufacturers themselves. In the sign industry, it was realised that their designers did not employ good design principles and methods in integrating the signs with their

locations and the wider environments, which should be an essential and strategic process parallel with the regulations. This to ensure the understanding that signage constitutes visual and physical objects in between the user and their wider use of the space designed physical space.

A member of the public said:

> ‘‘…with the exception of those in good sign firms, who know exactly what are they doing, there are many firms who deal with the sign as a making process only, not as a complete process of problem solving. I have not met those yet … The sign industry must find new ways of refining the design of visual communication, not only by introducing new products, but also by taking care of sign legibilty and visibility to create signs which are in harmony with the cityscape of Amman.’’

4.5 Conclusions

On the basis of the interviews, it would appear the the general public is looking forward to more organised proposals for the signage regime that keeps design as a priority, which will balance the needs of Amman and the public to locate buildings and areas easily and also to enjoy a pleasant environment. Neither the public, nor the sign industry wish to see a multitude of signs that are improperly designed, superfluous and a hazard to pedestrians, drivers, buildings and the surrounding environment.

The sign industry is willing to cooperate with GAM to achieve its aims for a signage system which balances the functional and aesthetic roles of signage. The large sign firms are developing their working practices and remain concerned with both keeping to the design brief and maintaining quality standards. Small firms are also trying to adopt more advanced methods of design and production. However there is evidence to suggest that GAM is not always willing to co-operate with the sign industry.

Without co-operation between these two parties and a greater understanding of the regulations that exist it is hard to see how the situation in Amman can really progress. Although this study shows that the public as a whole are keen to see the removal of some signage that was considered to be visual clutter, there will always remain a high level of dissatisfaction from the sign owners who currently believe that they need many large signs to attract customers and show the prosperity of their business.

Therefore, it is considered that a balance needs to be struck between all the stakeholders whereby all parties can be satisfied. Regulations must be enforced with the full knowledge of their consequences. Similarly there has to be an understanding by businesses that the biggest sign does not always guarantee the most business. The role of the sign designer is to negotiate between these two, by using their knowledge to create signs which fulfil the needs of business, are attractive and attention grabbing, remain within the regulations, and are in keeping with the architecture and environment.

Whilst the regulations have been effective in reducing the signs and creating an ordered appearance to the buildings, it can also be seen that they have restricted the opportunities for creative designs. An opportunity therefore exists for considering how sign designers can create effective signs which also reflect the architectural heritage of Amman, the needs of consumers and retailers, and the image which the city wishes to project on the world stage. The interviews with sign designers reported in this chapter mainly concentrated on their response to the regulations and their relationship with their clients and GAM. Further interviews are required to ascertain whether the designers have the necessary skills to work in this changing environment

where the needs of the environment, regulators, clients and consumers have to be carefully balanced.

Chapter Five: Case studies of the development of commercial signage

5.1 Chapter outline

Two case studies were conducted in order to gain a deeper insight into the way in which signs are designed and the interplay of different factors in their creation. The outcome of these studies will inform the design of an educational program for sign design by showing which competencies are needed by professional sign designers.

5.2 Introduction

Although problems relating to signage in Amman may be considered specific to the city, many cities face similar problems. Signage systems should take into account sign design principles, local legislation and the local culture. Two case studies were undertaken to understand more about the factors which need to be considered by sign designers and the stages undertaken in designing corporate signage.

From the point of view of GAM, the regulation of signs is motivated by the need to ensure public safety and minimize the negative visual impacts of signs in a community. The enforcement of 2007 signage legislations (as discussed in Chapter 4) were one way of accomplishing these goals. The new legislation called for limiting the size of signs, controlling their type, placement, appearance, to reduce visual clutter. This should also signal to designers that signs are one component of the complex built environment, and planning for and regulating signs is just one aspect of a city or community design program. Sign regulations are therefore created to guard against the irresponsible sign applications (Claus and Claus 1971).

The aims of the case studies were to:

- further understand the practice of sign design

- identify problems which practicing sign designers might face and which may point to the need for further training.

Two studies were undertaken, one considering the development of new signage at Coventry University, undertaken as part of a wider rebranding and awareness raising campaign. The second considered the way in which McDonald's signage has been adapted to meet local factors.

Specifically, the study of Coventry University's corporate signage aimed to understand:

- the way in which the signs were developed – from the receipt of the design brief, through consultation and concept design, to the manufacturing and placement of the signs,
- the wider issues which need to be considered in relation to the design of the sign itself, specifically the underlying meanings of the colours and symbols used,
- how the signs were perceived by different groups.

Whereas the study of McDonald's signage aimed to understand:

- the relation between the branding and signage, and how this is related to the architecture,
- the impact of local culture, architecture and regulations on brand and corporate signage.

5.3 Coventry University's corporate signage

Coventry University can trace its roots to 1843. In 1970 Coventry College of Art amalgamated with Lanchester College of Technology and Rugby College of Engineering Technology. The resulting institution was called Lanchester Polytechnic:

'Lanchester' after the Midlands automotive industry pioneer, Dr Frederick Lanchester, and 'Polytechnic' meaning 'skilled in many sciences and arts'. In 1987, the institution became Coventry Polytechnic and in 1992,Coventry University Coventry University, (2009).

The university lies in the heart of the city (see Figure 5. 1). Arguably this presence has been beneficial to Coventry through buildings which make a positive contribution to the urban landscape.

> ‘‘Coventry University is the child of its city. Its lineage reflects the changes and the evolution of Coventry at a number of different levels over nearly 200 years. The university and its predecessors have been a key driver in these changes as the University and the city have responded to the cultural, social, and economic challenges of the time.’’ (Coventry University, 2009)

Some university buildings are of significant architectural and historical interest but the campus is being constantly developed, so comprises of building of different styles, which unless well signed are difficult to recognise as part of the university. The buildings have recently been named after people who have made a significant national or regional impact, for example, the School of Art and Design formerly known as “M Block”, has now been renamed the Graham Sutherland Building. However, for those not familiar with the disciplines, such a naming system may be confusing.

To meet the challenges of an increasingly competitive marketplace, the university has produced a Corporate Plan in November 2006 which determined the activities needed to be undertaken through to 2010. This included the need to improve signage across the university to provide site cohesion and create a uniform brand identity. The case study, occurring just after the new signs had been developed, investigated their development in order to understand the issues which need to be considered when creating signage which is sustainable, sympathetic to the buildings

and local environment, whilst simultaneously communicating the aspirations of the University at a local and global level

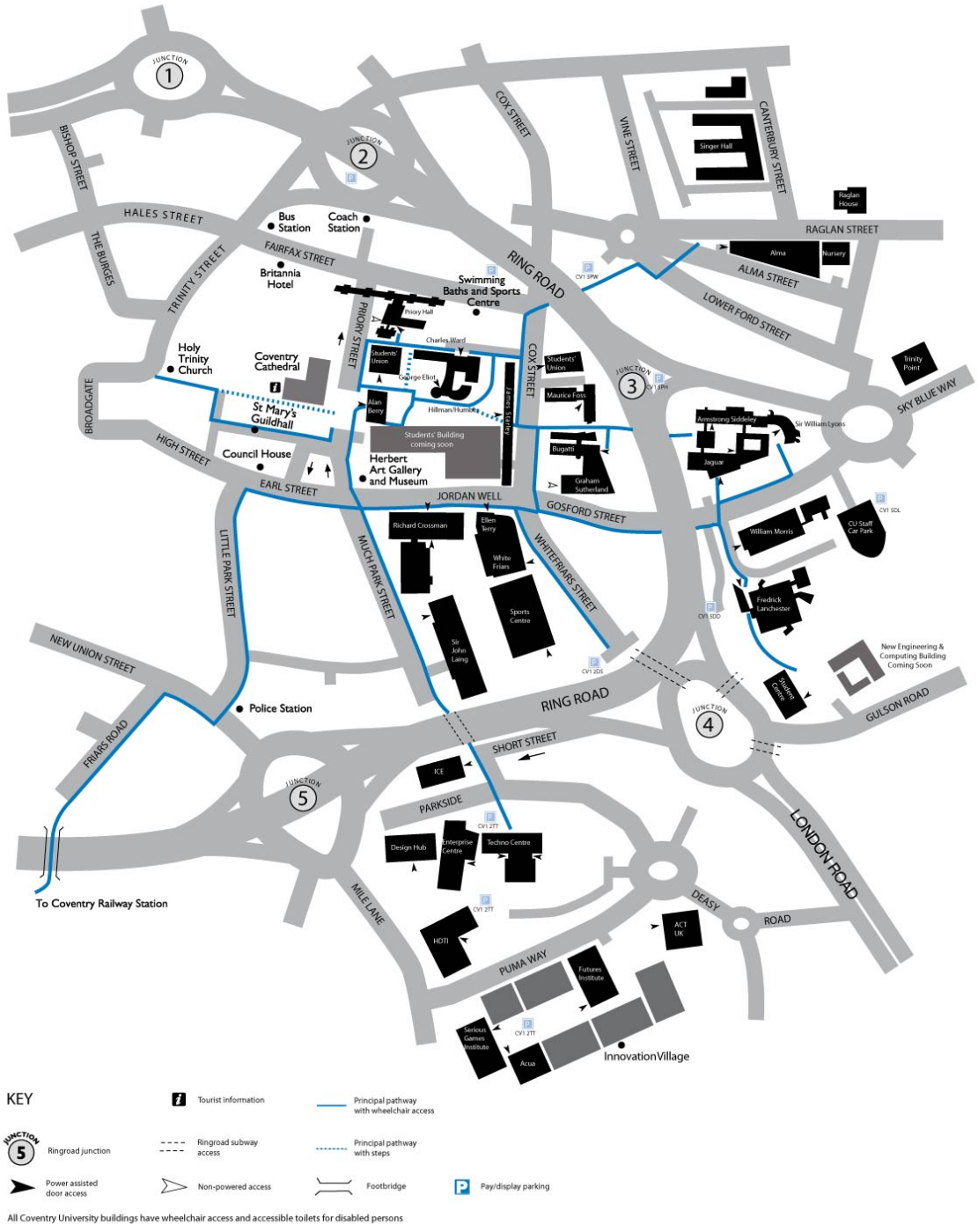

Figure 5. 1. Coventry University campus map

5.3.1 Methodology

Semi-structured interviews were conducted with representatives of the groups involved in the development of the new signage. These included, two members of Coventry University corporate affairs department, the chairman of the sign company who manufactured the signage, a convenience sample of 15 staff members, 25 students and 30 members of the Coventry public.

The structure of the interviews reflected the different roles the stakeholders held in the design process. For example the corporate affairs interviewees were asked about the need for change and the design process, whereas members of the public, university staff and students were asked about perceptions of the new signage system.

An interview schedule was created in advance based on my experience as a practicing designer, the observations in Amman and the literature review. Additional questions were added where appropriate to probe for further details (Appendix 3). The interviews were audio recorded and subsequently transcribed using a meaning condensation technique (Kvale, 1996). This approach included: reading the whole interview through to understand the underlying themes, identifying emerged themes in each interview, coding them and looking for similar themes across interview which related to the core aims of the interview.

5.3.2 The concept behind the new signage system

Interviews with members of the Corporate Affairs Department were undertaken to determine the rationale for the new signs. They indicated that the he old signage system was seen as ineffective in portraying the identity of the University. They perceived that the lack of a clear unified identity on buildings scattered around the

town centre hid the University from the public. Although each building had a distinct name, not all signs contained the university logo, thereby finishing the size and importance of the university in the city, and making way finding to different buildings difficult. The university logo (Lady Godiva) was not used consistently. The Director of Marketing Communications took overall control of the rebranding in collaboration with an external agency.

He added that the new logo is a phoenix, a mythical bird with splendid plumage, reputed to live in the Arabian Desert. Fabled to be the only one of its kind, it lived for five or six centuries, after which it burned itself to death on a funeral pyre of aromatic twigs ignited by the sun and fanned by its own wings. It subsequently rose from the ashes with renewed youth to live through another cycle. Such a symbol is a fitting reminder of the way in which Coventry rebuilt itself after suffering devastation during the Second World War.

The Director of Corporate Affairs explained that the new corporate brand was developed by an external consultancy, and further expanded by the Corporate Affairs department. The Coventry University design team was asked to select the most appropriate design and layout with the help of a number of marketing co-ordinators to deliver a world-embracing vision of hope and attainment.

The rebranding required the phoenix to represent the goals of attainment and flow of information. This was represented by a heightened fluidity of information. The symbol was flipped on its vertical axis, so the head of the phoenix looked to the right, to signify the university as looking forward rather than back. When the phoenix was first introduced it looked to the left (i.e. backwards in some cultures).

All existing signs were replaced with stainless steel ones, in which the phoenix looked to the right (Figure 5. 2).

Figure 5. 2. The University Logo, Figure 5. 3. The University Logo on a building

The Director highlighted that:

> ‘‘the forward-facing phoenix represents continuous self-creation, opportunity and abundance. The brand’s movement and the vigour of there presentation joined with the bright metal material (Figure 5.3). Its reflective quality solidified the ability to evolve perception and communication to a positive firm platform of understanding, and embracing art and quality in the balance of expression.’’

The logo became an element of visual communication which forms a dominating thought and presence of the life force of the University and its creativity.

The Director of Marketing Communications said that they used a range of colours as part of the brand solution. Sky Blue was the preferred colour as it matches the city’s colours (football team and street names e.g. Sky Blue Way) and previous University branding. It was also felt to work well with the silver used in the new signage.

The blue and silver colours represent unity across the university and with the city. The logo provides the university with a global identity on websites and all forms of communication.

Confirming the need for signs on each building, the Director stated:

> ‘‘the main reason was that one of the things I felt when I joined the University, I never actually understood where the University was. I was somebody who had lived in and around Coventry for a number of years and I was certainly not aware of the parameters of which building belonged to the University, which didn’t. I was hardly even aware that the University was of the size and scale that it was, there was no indication of when you were in the University campus, which buildings belonged to it, or any connection with them’’

The University’s Marketing Co-ordinator suggested that the new signage was planned with the specific aim of raising the profile of the University, and indicating which buildings belonged to the University.

The Director of Marketing Communications stated:

> ‘‘The new signage system was introduced in early 2006, initially on the outside of the buildings and subsequently in 2007 onto directional and map signage around the campus (once planning permission had been granted by the Council) and internal signage building by building as faculty budgets allowed.’’

He continued:

> ‘‘The University was looking for a new signage system to reflect the importance of its campus as a part of the city and to be more distinguished. In which, it reflects the names of the buildings and reference to the schools and faculties occupying them. The new signage system will enable any visitor unfamiliar with the campus, to direct and to provide him with all information about the University buildings. We were aiming to create a corporate identity and concentrate on usability as a wayfinding system.’’

The creation of the new branding and new signs aimed to address the problems of unclear naming of buildings, lack of unity, and poor directional signs, all of which confused people new to the university.

This concept of brand signage reflected itself on the researcher in remembering how most of the universities in Jordan are missing the advantage of having a signage system that reflects the importance of their campus. The universities

in Jordan are constructed in a way that they are isolated from the surrounding environment forming a closed campus. The style of the campus construction and main entrance distinguish the university from the other building in the city. The university signage system on building just has one function to inform the visitor the name of the building and who is occupying it, in some universities signage lacks of unity.

5.3.3 Design Process

The University's Marketing Co-ordinator pointed out that the timescale of the design process was critical, allowing for concept development and evaluation.

The Director explained that the University designers themselves worked on the final selection of materials for the signs. Other colleagues in Corporate Affairs were involved in the decision making process by making suggestions about how they thought the signs would communicate the University's message. A design brief was given to five Corporate Affairs designers to cover three main aspects.

The design needed to be consistent with the brand of the university. The university designers created a number of versions of the way the brand would look on different building configurations For example, long narrow spaces would need the logo to be placed in the front of the brand rather than above it.

The second aspect was to investigate the site and identify what signage was there, and what type of new signage would be needed. Two types of signage were identified, one to tell people the name of the building, the other to show the department. The third aspect required the consideration of how the corporate logos could be used to distinguish the University buildings from other buildings in the city.

The designers prepared a solution that answered the brief, solving the problem creatively and visually. After gathering data about the location of the University's buildings, their architecture, signage requirements (users, materials, legibility and colour) and sustainability issues, they completed a feasibility study by recording and identifying the visual aspects of the locations and buildings and creating a photographic portfolio of all university premises and existing signs.

The chosen design was the interpretation of an individual graphic designer and was selected by a panel of the University officials, because of the simplicity in portraying both the flow and solidity of the brand. The sign designer mostly is involved in all these phases, and this requires a special knowledge and education which will equip the designer with right skills to play this role, This clearly shows the ability of the designer to work and organise a team and to understand and implement the design brief.

The design process adopted by the designers at Coventry University is similar to the phases introduced in chapter one by Gibson (2009), Calori (2007) and McLendon and Blackistone (1982

5.3.4 Designers role

The University project team approved the final sign design. This would form the central part of a new signage system and included guidelines for establishing a consistent identity for Coventry University. This meant developing a comprehensive system of signage to provide a user-friendly means of navigation and identification to distinguish University buildings more easily. Careful attention was given to the criteria established for implementing and maintaining a unified signage system to ensure clarity of public access to the campus at any time.

The lead designer stated that his role was to oversee the output of all University templates from a creative design perspective in order to ensure consistency, and optimise the clarity required in the various applications.

Designers perception of the way in which the signs were developed was based on sign posting the University in terms of raising awareness.

> ‘‘As a city centre campus, it was not obvious which building formed part of the campus and which did not. The numerous sites on campus were required to stand out in the first instance by a simple badging process.’’

With reference to skills learnt that related to sign design, the lead designer said:

> ‘‘an understanding and appreciation for the intended application of the sign. Each new project requires investigation about what the signage is to achieve, the best approach is a sufficient research is carried out.’’

For the designers, the short term research conducted involved considering:

- The purpose of signage
- Signage location
- Type of materials and sustainability
- Effective methods to apply the design to the materials
- User perception
- Critical examination of signage projects
- Knowledge of national and local
- Regulations

The above issues are important if the designer is to create signs that convey the desired image or message to the anticipated viewer. They use these skills to create the sign elements and materials that are visually compatible and likely to be noticed.

Moreover, the signs need to easily add sustainably

The designer expressed his experience in this project by saying:

> ‘‘the scale of the project and how it has evolved has made me think about the signage woks. It also brings to home the amount of responsibility that a designer has on the urban landscape of a town or a city.’’

The designer stressed on the importance of working closely with the sign manufacturer. He said:

> ‘‘it was useful, it always helps to maintain a good relationship with suppliers. In this case we were able to seek advice on the best materials, as well as utilise art working capabilities from the supplier as and when required. The supplies would happily discuss potentials ideas and provide prototypes if necessary.’’

On completion of the brief the designers were satisfied that this design achieved its aim, was consistent and had high impact and worked well in portraying Coventry as modern university as well as highlighting the main campus area. They felt that ways of applying signage could be improved in the future.

5.3.5 Interview with the manufacturer

After the selection of the final design, a design proposal was presented to the sign manufacturer who prototyped the signs and supported the designers by answering technical questions relating to materials to be used, size, preparation of the design for production and the creation of sample designs in various formats.

The Manager identified the importance of working with graphic designers who understand the issues of translating identity and purpose to a location, employing image and material as the body of the communication. He said:

> ‘‘part of my brief as well was talking to the graphic designer, because they have a corporate image, Coventry University, and I dealt with Marketing and Communications on the practicalities of how we would do things, prior to actually going ahead with the signage. I dealt with many designers in Marketing, who gave me the brief of what they would like it to look like, for me to turn it into a practical solution for them. But again before going ahead I had their approval first, because Coventry University is very strict on their corporate image.’’

The manufacturer completed his own feasibility study to ensure that the new system had a sustainable and robust identity, incorporating the desired finesse and movement, and identifying the visual aspects of the locations and buildings which needed to be considered. He explained:

> ‘‘I knew what I wanted to do, but I didn't know whether it would work so I superimposed the images on the photographs I took ...
> … obviously I had to present those to the Directors for approval, the different options, and that was the design that was chosen, which also happened to be my favourite design. It was the design I would've gone for.’’

Prototypes of the sign designs enabled the manufacturer to convey his design intent visually to members of the university and Coventry City Council when seeking consent for the erection of the new signs. At this stage sign design legislation and the practical and financial management of the project were also considered.

The manufacturer identified the life span of the university signs to be 10 years, based on the longevity of the materials used,. He explained further:

> ‘‘The directional signs should last 10 years plus. They're aluminium, they're powder-coated and provided they're not vandalised they should be there over 10 years. The stainless steel logos on the building will give you 20-25 years, no problems at all. I would recommend that after a period of about 10 years that the signs are checked to make sure they're still stable.’’

Regarding the relationship between the signs and the university buildings and to the wider city environment the manufacturer commented that the signs looked ‘very classy’, and identical on each of the buildings. Coventry City Council Planning Department confirmed that the signs were not ‘too loud, tacky or bright’. Signs were placed on buildings bearing in mind the structure of the building, sight lines and signage policy rules and guidelines. As part of this process, prior to obtaining

planning permission the City Council representative, manufacturer, and the Director of Corporate Affairs, and walked the site equipped with images of the proposed signs.

Concerning the rules and regulations which had to be followed the sign manufacturer commented,

> ‘‘When you're dealing with a job of this magnitude, you have to deal with health and safety. Paramount: very, very important.... when you're dealing with steeplejacks and scaffolding and quality, we have a quality system in place here whereby everything we do is thoroughly checked three times before it leaves the premises to make sure that the product we are selling is absolutely A1, you know, it’s got to be the bees knees. When I go on site afterwards. we then have to issue method statements and risk assessment to make sure that you're not hindering anybody, you're doing things safely, you're doing things properly, you're not putting the public at risk, you have to cone off areas where you're working…all the things that go with that, they're all part of the project, it isn't just supplying the sign and putting it up on a building, you have to get permission to do things, you have to show that you are protecting the public at all costs and, when the sign is finished, that its put up safely and you do all the tests for that so that when you've finished it.’’

Product lifetime costs should be part of the sign design process including a level of planned maintenance and sustaining the integrity of the system. The manufacturer stated his responsibility towards the University signage and its maintenance.

5.3.6 The new Coventry University signage system

The key objective of the revised signage system was designed to enable each user to form a mental image of a building that belongs to the university. To fulfil this, it was necessary for the designer to understand the style of the building and its architecture style. Therefore, when the university sign was incorporated with the architecture, sign will form the place making (Calori, 2007).

The new signage system was designed to:

- Identify Coventry University premises, in a way that was sympathetic to existing architectural features whilst alluding to a modern progressive institution.
- Provide direction and location information to assist visitors, students and local citizens to find their way around the campus easily and confidently.
- To raise awareness and pride about the University amongst the citizens of Coventry.
- To distinguish the University buildings and premises from other buildings in Coventry.

The University aimed to design an effective signage system, yet it's efficiency relies heavily on the ability of the user to detect, recognise, read and interpret signs. Therefore, the sign's functionality in design and location is vitally important and it is noticed that the contrast between letters or symbols and their background should allow for high legibility. This is reflected in the use of dark colours on a light background as the dark background will absorb sunlight (Calori,2007; Gibson, 2009; Uebele, 2007).

The University buildings are of varying architectural styles and colours. walls are dark, therefore the addition of sliver and blue on the signs ensured that they have an enhanced visual impact. The colour branding maintained a familiar reference point which produces an awareness of being within the campus. Consideration was given to determining colour combinations together with the background behind the signs.

These combinations aimed to provide an optimum contrast at all times. Colour function in signs is quite similar to that in other media: it creates an atmosphere and suggests unity or diversity; it can unite the university buildings that are different in scale, material and style. Colour could also be used as a source of information and direction. Sometimes colour expresses the character of the material (Sims, 1991).

The new signage system was intended to provide directions to the buildings with a relation to the corporate identity, and an indication of what schools or facilities reside in the building (Figures 5.5a, 5..5b). These replaced much smaller and obscure signs that just highlighted the entrance and exit points.

Figure5.5a. Wayfinding Map Sign Figure 5.5b. Wayfinding Arrows sign

The new signage system covered the three aspects identified by the design brief, showing the function of Schools and Faculties, their connection to the university and the buildings relationship to the rest of the campus by using wayfinding maps. It was intended that this would help the rapid identification of buildings and make the university visible to the wider community (Figure 5. 6).

Figure 5.6. Building Identity Sign

All sign were made using curved aluminium vinyl lettering and graphics. The typeface was Helvetica upper and lower case, written in initial caps format. Signs produced in the vertical and horizontal (Figures 5.7a, 5.7b).

Figure 5.7a. Vertical Sign

Figure 5.7b. Horizontal Sign

The university logo is always placed on the bottom right corner depicted in white colour on a blue background. But when the logo itself is located in isolation opn the University buildings it is in aluminium and may take one of two forms depending on location (Figures 5.8a, 5.8b).

Figure 5. 8a. Corporate Sign

Figure 5. 8b. Corporate Sign

5.3.7 Perception of the new signage

The interviewees mentioned evaluation as part of the design process. Little evidence was found of multi stakeholder evaluation, either during or after completion.

Therefore, seventy people were interviewed in a convenience sample drawn from members of staff, students and Coventry residents. Coventry citizens were interviewed in the city centre and the students and staff in the University campus. Before starting the interview, the interviewee was briefly introduced to the topic of the interview. The questions related to the perception of signage on the buildings, perceived function of the signs, their impact and compatibility with the overall city landscape. Table 5.1 provides an overview of the responses.

Respondents Total number	Coventry Citizen 30	Students 25	Staff 15	Total 70 Average
CU. buildings distinguished.	87%	57%	70%	71.3%
CUsigns thought attractive	80%	53%	70%	67.6%
CU signs noticed	42%	60%	80%	60.6%
CU Signs fulfil its function	71%	60%	80%	70.3%
CU signs relation to the buildings	46%	53%	50%	49.6%
Signs in keeping with the city culture	46%	21%	50%	39.9%

Table 5.1. Perception of University Signage

Table 5.1 shows the divergence of views amongst the participant groups in relation to the extent to which the signs are noticeable, relate to the buildings and are in keeping with the city culture. As shown in Table 5.1, the feedback received from students, who are the main users of the campus, was different to that of the other groups. The results relating to the relationship of the sign to the buildings and the city culture were much lower than expected, especially given the designers appraisal of the outcome.

5.3.7.1 Coventry Citizens

The residents of Coventry did not report that they were influenced by the change to the corporate identity as they played no part in the activities of the University. This was typified by the following response.

'I have no idea. I don't know. Are there a lot? I do not have any concern or work with the University.'

A lighting consultant answered the question on how she identifies the university buildings:

> ''Well, initially I would not have identified Coventry University buildings with the outline of the architecture. I've lived here in Coventry for over 20 years now, and the architecture of Coventry University is no longer centralised, it's quite widely spread. One of the buildings has quite a nice advertising section on it, but I would say that the advertising of Coventry University, its identification, is not best done, there's a large room for improvement. The fact that locations are difficult to find because the building structure is larger than identification, and there's no symbol ubiquitously used throughout the design, so for instance, the phoenix rising from the ashes, which represents Coventry University, is not clearly seen on each and every building is scattered across the topography of Coventry City centre. With great difficulty I identify some buildings. They're usually hidden, set back, not clearly displayed for vision from a distance and I think they take for granted that people will be approaching by vehicular access as well as on foot.''

A visiting Professor of English said*:*

> ''The recent signs in Coventry University are, I think, quite attractive, they're quite appealing...the image of the bird or...the phoenix...kind of coming out...that I think is quite effective and I think that the...the font that's used on the lettering of the Coventry University signs is also quite eye-catching and

> the kind of crisp whiteness of the signage is also something which does attract your eye.''

Another interviewee stated:

> ''Well, it's laid out. It's spread isn't it? I suppose it's got a diverse theme to it all. But...I don't really take much notice because I just drive straight through.''

These responses were typical of the majority of those interviewed. 80 per cent of respondents commented that the signs were a convenient way of identifying the University buildings and they considered these signs distinguishable and very attractive. They thought the signs helped to draw attention to the University buildings.

A local trader felt that the signs were tools in identifying the buildings of Coventry University, but he felt that the library was the most distinguishable building by its architectural identity. Not all buildings were identifiable.

A nurse said:

> ''How do I identify them? I'll be truthful, I've lived in Coventry all my life and I just know where they are. I don't actually see the signs or anything. They're stuck out (of) the way, you don't really notice them unless you know they're there. And with them being down that side of town, unless you go down there you don't see them.''

A few residents find that the presence of Coventry University buildings in the centre of the city has a negative impact on the city scene and is an unnecessary dilution of the city's essence. This demonstrated a feeling of lack of inclusion within the citizenship. It was suggested that University buildings should not be mixed with other buildings in the city. This may have biased the results. There is no sense of a campus, but individual buildings such as Ellen Terry building and Serious Games Institute, have their own architectural identity and style. Only the signs identified these building as being part of the University (Figures 5.9 and 5.10).

A retired resident said that it was hard to identify the university buildings and they were not distinguishable.

> ‘‘Most of them are the old buildings, and they've been converted into the Student Union, or whatever. And they're in the town area. The one block down the road there, that used to be the Social Security office, that's the one in Gosford Street. The ones up the Hillfield way, they're just like old workshops and what have you, been converted into the Student Union places.’’

So he did not think that the new signs were effective in bringing a sense of identity to their location. The Ellen Terry Building is the old Odeon Cinema.

Parts of the images on this page which could be used to identify individuals have been removed for data protection reasons. The unabridged version of this thesis can be viewed at the Lanchester Library, Coventry University.

Figure 5.9. Ellen Terry Building

Figure 5.10. Serious Games Institute

Residents who noticed the signs found them attractive in their location and commented on their colours. The University logo plays an important role in distinguishing the University buildings from others in the city.

A housewife suggested:

> ‘‘The fact that they're new buildings, and I've been in Coventry for a long time, and I know that they've been there before, and I can tell by the new artwork on them as well, the design. It's definitely different to some of the other buildings around that area. The signs are very distinctive. It is for the students because you don't want anything too garish and you don't want anything too bland that you can't see them, so I think that they blend well.’’

An administrative officer with the City Council noticed the University buildings by the signs outside and the “The Phoenix”. As he lives in Coventry he

knows the buildings of Coventry University, but he found the signs are quite distinctive and signs noticeable. All those interviewed agreed that the library was the most distinguishable Coventry University building.

5.3.7.2 The University staff

The University staff appreciated the signage system. Ten members of staff interviewed found that the new signs were attractive in shape, design, colour and function, and well located. Five members of staff, however, believed that the signs were unattractive in colour and design. All participants accepted that the signs fulfil their directional and corporate function.

Most of the staff interviewees felt that the signage system did not have any impact on the culture of Coventry. A few did not relate to some old buildings in terms of concern for the architectural identity and the surrounding environment. For example, one suggested:

> ‘‘Do they have an impact on culture? I guess with the large signs when they go up, then people can identify that lots more of the centre of Coventry is to do with the University itself, so particularly around the Cathedral area there's been a lot of renovation work going on, then I guess that has impacted on the culture of Coventry. And down by the new BBC building, there are things going on there that are new and exciting and I guess are impacting on the cultural life of Coventry.’’

An IT Research Support Officer discussed the shape, colour and style of the buildings of Coventry University and said that they had not been distinguishable, until the signs appeared on the buildings. He was not aware that many buildings belonged to the University in the city centre.

Eighty per cent of the 30 interviewees were not sure if the signs had an impact on Coventry culture and the environment. A Research Administrator pointed out that

signs enabled people to notice the University's presence in the city, but the signs of the University had no impact on culture.

Seventy per cent did not feel that the signs were related to the buildings, because the signs were constructed from a modern material that is different from the style of some buildings.

5.3.7.3 The students

In terms of corporate identity, the majority of the students agreed that the signs confirmed the university buildings and made them more easily noticeable as belonging to Coventry University. Mostly they appreciated the sign design and felt the design and colours were attractive.

When asked if they noticed the signs on buildings, one PhD student answered:

> ''Only if you're quite close to the building. Usually, if it is a building with a big corporate sign but there's not many of those, and the ones with smaller signage you have to be right next to the building to ascertain whether it is a Coventry University building.''

It was clear that student recognition of the University appears in the greatest part to be identified with the University library, suggesting that the impact of the new building signage has not created a ubiquitous identity. One student, for example, said:

> ''I'm a student at Coventry University, I do Graphic Design and Illustration. I've been here for five years, I think the signs have got better in the last two years. They've put silver signs high on the buildings and there are blue signs on most of the buildings. Some of them are a bit high up, I wouldn't say they're great for disabled people and there aren't enough of the big signs with maps on in my opinion, there are only two or three around the University.''

> ''The corporate signs with the university's logo in silver has played a great role in distinguishing the university buildings from others in the city''

A Masters student responded:

> ‘‘I identify signs usually by the blue plaques on the wall, so the blue with the phoenix logo, the phoenix logo's the thing that stands out that you notice. I think the best building in the whole place is the library because the designer was an environmental management student, so I think that the fact it's actually been designed for environmental benefit is great, they need to encourage things like that. And I'm hoping that the new buildings that they're going to put in are going to be as well designed.’’

Most of the interviewees felt that the signage system did not have any impact on the culture of Coventry city. Fifty-three per cent of the student participants opined that the signs design and material do not relate to some of the old buildings and expressed concern for the architectural identity of the surrounding environment. One overseas student said:

> ‘‘At first, when we came here the first time, it was difficult for us to reach the building for our University because it is surrounded in the City, not in the campus, but we just followed the signs. After a while we know the area very well.’’

5.3.8 Conclusions

5.3.8.1 From the interviews with users

From the interviews it emerged that the new signage system was limited in the extent to which achieved its aims. The importance of the new signage system was recognised and positively received by some students, staff and Coventry citizens. There was only a limited level of interest in University and its branding by those who had no connection with it. There seemed little appreciation of the relationship of the university buildings to overall transformation of the city. With the decline of traditional manufacturing industries in the late 1970s, Coventry has had to once again to reinvent itself as a thriving commercial and office centre with two major universities. Coventry is the 13th largest cities in the UK. As a student city it should be easy to get to and around.

However, the results show that it takes more than just a signage system to transform the scattered buildings into a single campus, especially when these have been built in different styles. Clearly the newer buildings are giving the university a distinct and unique architectural identity (Figure 5.11).

Figure 5. 11. Lanchester Library is recognised as Coventry University premises.

In contrast, other University buildings merge with the architecture of the surrounding buildings and the new signs cannot truly distinguish them. To identify such buildings the observer will need to come close to identify the sign, especially those who are unfamiliar with the campus.

The citizens, staff and some of the students felt that Coventry University's signage system has played a great role in terms of developing corporate identity and branding media. The staff appreciated the signage system and stated that it was an initiative to assist the public in distinguishing and identifying University premises easily. One measure of how effective or valuable the University signs are to its site is demonstrated by how well they help to brand the site.

Coventry University corporate signage may play as a "brands" of a location, just as a product label brands the product. If the sign does not communicate an attractive image, the business will rarely convey its true message, or get the clientele it seeks.

There is a doubt that Coventry University signage system has played this role with all University premises such as Ellen Terry building (Figure 5.7). The design process was driven by the University's needs. However, the students expressed dissatisfaction with the signage system especially in terms of navigation.

5.3.8.2 The design process

The plan for a new signage system for Coventry University was based on the new rebranding strategy. Coventry University design team was asked to select the most appropriate design and layout with the help of a number of marketing co-ordinators to deliver a world-embracing vision of hope and attainment. This included improvements to the signage system. The new signage was planned with the aim of raising the profile of the University, and indicating which buildings in the area belong to the University.

A design brief was given to five Corporate Affairs designers to cover three main aspects. On completion a design proposal was sent to the sign manufacturer. The university designers created a number of versions of the way the brand could look depending on different configurations on the buildings.

The interviews emphasized that designers working on signage projects must combine artistic and strategic knowledge of how the project will be managed. This was evidenced by the approach taken by the university's design unit at the Corporate Affairs Department, to fulfilling the design brief and their design proposal. Whilst sign designers and sign manufacturer both contribute to new product development, sign designers have a bias towards appearance and functionality; whereas sign manufacturers focus on technical issues, regulations and manufacture. Both parties

refer to technical activities that apply scientific knowledge, ensuring that the product satisfies the design specification and manufacturing requirements.

The University design team has employed artwork or physical models as representations, to enhance discussions and improve spatial and perceptual assessment. The sign manufacturer applied technical knowledge to ensure that the products optimally met the design specifications with representations in the form of engineering drawings that show requirements based on quality, performance and cost.

The team working positively effected the design process, from research to implementations. Designers were aware of human factors in the architectural environment (such as the location of the university buildings which are mixed with the other city building, the building styles “classic and modern”, visual literacy and sustainability), planning method, graphic design, semiotics and typography etc. It is argued that knowledge of these issues should not be learnt on the job, and at the client’s expense but should be provided in comprehensive undergraduate training.

The design team embraced highly objective and rationale issue such as the sign-making and material selection, to those that are highly subjective and expressive such as the design and layout. Their understanding to these factors guaranteed that their design outcomes related to the design brief. The collaboration with the manufacturer helped to equip them with the required knowledge of sign design and sign making process, to be able to produce work that will satisfy the user, sign manufacturer and regulators.

For designers whose chief responsibilities are to work on urban design or long-range comprehensive planning, signage issues are addressed when community design

policies and guidelines are presented clearly, whether they are for special districts or the community as a whole. They might work at the sign permit counter and/or serve as staff to sign design review, or historic district commissions. The signage policies that current designers are implementing have been pre determined in the long-range planning process or in the drafting or amending of the zoning or sign code.

Designers were committed to be aware of Coventry City Council rules, from the point of view of local City Council, the regulation of signs is motivated by the need to ensure public safety and minimize the negative visual impacts of signs in the city. The means by which these goals have traditionally been accomplished have been to limit the size of signs, control their type, placement, and appearance. This will impose measures to reduce "visual clutter." This research is arguing that regulation alone will not reduce the visual clutter, it must be examined by well equipped sign designers. Those designers need to find new ways to refine the art of visual communication, introducing new products into the urban landscape that many ordinances do not accommodate.

Morris (2001) confirms that signage policies should represent the broadest possible consensus or prevailing community viewpoint about the physical appearance of the city. For this reason, some people will inevitably construe them as too restrictive and others as completely reasonable. To ensure that the signs conformed to current practice and guidelines collaboration was needed with the manufacturer. , who was able to decide on what was technically acceptable and support the university authorities aim to promote the sense of place and identity.

Ideally, the planning and design policies that affect signage should result from a planning process that assesses the overall visual character of the community,

involves citizens to determine their concerns and preferences in balancing economics, social, and cultural values.

Coventry university signs were in keeping with the mission statement and the corporate branding of the university. The designers take the idea that the university was forward thinking and use that in the development of signs.

A list of key themes emerged in the case studies that could form the basis of competencies: project management; Collaboration; architecture awareness; research skill; knowledge of project process and manufactory; sustainability; reflection on the work; materials; colour theory; typography; and legibility

5.4 Case Study of McDonald's Signage

5.4.1 Introduction

The aim of this study was to further understand the factors which need to be taken into consideration when developing signage for an international corporation which may have franchisers overseas. It is therefore complimentary to the previous study, which focussed on creating a signage system specific to one location. McDonald's was selected because it is a global brand, having a presence in 119 countries. In developing signage designers have to take into account the brand, the image the company wishes to portray, the design and heritage of the buildings (either specifically designed for McDonalds, or converted) occupied by the franchise, the local environment and the regulations which govern signage in a particular country, Clearly, a solution which is acceptable in one country may not be so acceptable in others (Figure 5.1).

Figure 5.1. Contrasting approaches to signage in New York (1a) and Rome (1b)

5.4.2 Method

The case study was constructed through a photographic analysis of 30 images. These were collected by myself and colleagues. Additionally, Sebastiaan Kroes allowed me to use his archive images. Figure 5.2 shows the 14 countries in which images were taken. This was augmented by a literature review of the evolution of the McDonalds brand in order to understand the rationale for the current design changes.

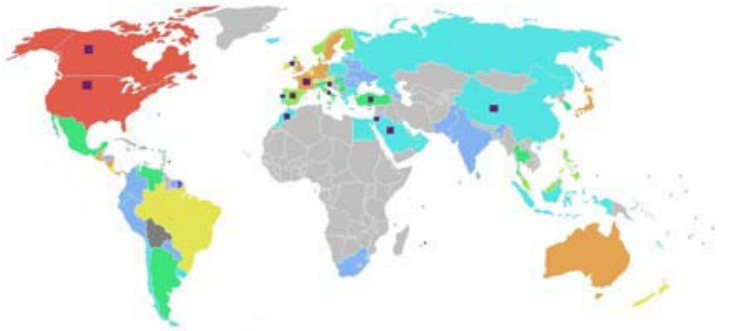

Figure 5.2. Distribution of case study restaurants

It is argued that sign designers need to be aware of the culture and history of the corporation and the values it wishes to portray when they take on a design brief, as well as more local factors. This will enable a coherent message to be portrayed.

The analysis of the signs was guided by Portella's (2007b) guidelines to control the physical aspects of commercial signage. The factors considered include:

- number of shop fronts and advertisements per shop and size,
- duration of display
- size of letters, figures, symbols or similar features
- illumination
- number of fascia panels
- location on facades
- distance between signs
- commercial sign and building facade
- thickness of sign structure
- percentage of sign a quantity
- building facade area covered by commercial signs
- content of commercial messages
- and distance between the bottom part of the commercial sign and the sidewalk.

These guidelines have been developed from an understanding of visual quality, formal and symbolic factors and the operation of commercial signage control (consumer culture, city management and urban tourism). Commercial signage needs to represent the owner through a unique feature, in a proper size, harmony, and attractiveness and possess uniqueness with the space. Cocozza (2008), in considering the visual impact of signs emphasized the importance of size and height and how these have a great impact; colour and spacing are all equally important.

5.4.3 Evolution of McDonald's signage

McDonald's has approximately 30000 restaurants across the world serving 50 million people a day. It has come to symbolise the best and worst of American culture and of globalisation (or the McDonaldization of society, Ritzer 2004). Indeed, The Economist magazine uses the "Big Mac Index", a comparison of a Big Mac's cost in various world currencies, to judge informally the value of these currencies' purchasing power.

A group of anthropologists (Watson, 1998) looked at the impact of McDonald's in East Asia, and Hong Kong in particular. In East Asia McDonald's has become symbolic of the desire to embrace Western cultural norms. McDonald's has recently partnered Sinopec, China's second largest oil company, taking advantage of China's growing use of personal vehicles by opening numerous drive-through restaurants.

In addition to its effect on business standards, McDonald's has also been instrumental in changing local customs. Watson's (ibid) study suggests that by presenting the idea of a quick restaurant meal in a comprehensible and acceptable form, the prevalence of McDonald's has led to the widespread adoption of much

previously frowned-upon behaviour in some cultures, such as eating while walking in Japan.

Figure 5.3. The first McDonald’s restaurant Illinois, U.S. (Britannica, © Sandy Felsenthal/Corbis)

McDonald’s was founded in 1937, by Patrick McDonald, who opened the Airdrome restaurant in California. Hamburgers were ten cents, and all-you-can-drink orange juice was five cents. The business was expanded by Richard and Maurice McDonald, who in 1948 introduced the "Speedee Service System" which established the principles of the modern fast-food restaurant. The business was expanded and then taken over by Ray Kroc who went on to found McDonald's Corporation and saw franchise opportunities across the US. The core concept and the menu have remained the same with a fixed price menu which relies on burgers, french fries, shakes, soft drinks, and apple pie and fast turnaround times, together with a cheerful yet efficient level of service. McDonald’s should not only cater for the fast food market, it should also be regarded by some (i.e. the young) as a treat.

Advertising has always been a key part in the development of the McDonald’s business, as exemplified by Kroc’s 1960s campaign "Look for the Golden Arches”. This simple statement underlined the fact that McDonald’s had to be recognized at a

distance, by both pedestrians and car users. Therefore signs had to be prominent and easily recognizable.

This is embodied in the well known logo – which has remained constant through most of the history of the corporation, as seen in Figure 5.4 The golden arches forming the M are prominent and are so well known that they can stand alone (without further explanation or embellishment. The last example shows a link between the logo design and a media campaign in which the strap line was 'I'm loving it'.

Figure 5.4. Examples of McDonald's logos, http://logos.wikia.com/wiki/McDonald's

The philosophy of 'look for the golden arches' is clearly one which franchises still take into consideration when designing their signage (Morrison,2004). The examples in Figure 5.4 illustrate the extremes to which this is taken (Logoblog 1999). The resultant signs, although prominent are not usually in keeping with the scale of developments and may be regarded as an eyesore. However, they fulfil the needs of the corporation (Balmer and Gray, 2000; 2003), as they become in themselves a landmark, which can be used for both navigation and a meeting point – and where people meet – they may also eat.

Figure 5.5a. Saudi Arabia and Figure 5.4.5b, Jordan

The bold, brash signage and the image of McDonald's is slowly evolving to take cognisance of the changing attitudes and perceptions (Van Riel, 2000, 2001). The refreshing of the brand and its design is seeing the use of more muted, less strident colours, as exemplified in Figure 5.6. The redesign is followed through into the interior with softer lighting and art works which provide a more peaceful, contemplative atmosphere.

Figure 5.6. McDonald's in the UK, in 2006 and the same restaurant in 2007 (Wikipedia,© Billy Hicks)

In such a major development, the onus is on the corporation to convey the new image it wishes to portray to its franchises, and provide them with adequate guidance to effect the changes in a way which not only preserves the brand identity, but which is in keeping with local culture and expectations. Clearly the approach taken to advertising in retail outlets in one country, may not translate easily to another culture.

5.4.4 Adaptation to architectural variation

To support their approach to fast food service and eating, and the increasing dominance of motorised transport in the US, McDonalds also developed their own style of architecture, strongly influenced by the 'American diner'. Examples are shown in Figure 5.7 below, the first features the 'double mansard roof' and the second the swish eyebrow" (Gogoi, 2005). The traditional colour scheme (red white and yellow) along with the golden arches, although there seems little attempt to integrate the signage with the buildings

Figure 5.7. Examples of McDonalds buildings in the US, catering for drive in, or drive through traffic, http://images.businessweek.com/ss/06/05/mcdonalds/index_01.htm

This style of architecture has been adopted by other countries, as can be seen in 5.4.7 and the Figure 5.4.8 below , taken in the Netherlands. This also illustrated the way the 'drive-in' is being changed to reflect concerns about sustainability.

Figure 5.8. McDonald's 'drive in' in Delft, reflecting the new and old image

Clearly, restaurants situated in city centres are restricted in terms of the size and quality of space available. Additionally most of the customers are on foot. In the US, aggressive, upfront advertising is used to assert the brand, and also because this manner of advertising is more acceptable (for example Figure 5.9).

Figure 5.9. Signs in San Francisco and New York

More muted variations may be found in both the US and elsewhere (Figure 5.10). However, it may be argued that the oversized signs are not in keeping with the architectural form. There is a superfluity of signs, some of which are overlapping, and too large fonts

Figure 5.10. Restaurants in US and Casablanca

Whilst one of the signs on the Casablanca restaurant is written in Arabic, this is the only accommodation to local culture. Indeed, there is little evidence of accommodation to local styles (see Figure 5.11). The signs on the Marrakesh

restaurant may be construed as visual clutter, with too many signs, some of which overlap or conflict with the architectural features. The signs do not project above the roof. The signs on the Marrakesh restaurant show some adaptation to the structure of the building, in terms of style, position and salience. However, there is also a legacy sign (the golden arches) which is not in keeping with the new brand.

Figure 5.11. Signs in Marrakesh and Istanbul

When McDonald's wishes to place itself in the centre of prestigious, historic and commercial areas there is a business case to adapt to local conventions and regulations. A conservation area is a legally designated area that is identified as being of special architectural or historic interest (Bottrill, 2005). In these areas the local planning authority, such as the City Council (Municipality), has a duty to "preserve or enhance" the character and appearance of the district. Therefore, the City Conservation Area seeks to protect the town's special character and ensure that proposals concerning the nature of developments and alterations, including shop fronts, within the Conservation Area will positively influence this.

The restaurant in Istanbul, is situated in an old building with its own character. The logotype is in a golden colour on brown background and the shape of sign is in harmony with the building's style. The logo is located away from the logotype with

the same concept, Golden Arches on a brown background. In such cases the style and amount of advertising and signage is reduced and may seek to reflect the local architecture. In Figure 5.12, this is reflected in the neutral signage.

Figure 5.12. McDonald's in Bologna and Paris

Figure 5.13. McDonald's in Salzburg and Kristiansand (Norway)

The signs in Figure 5.13 show sensitivity on the part of the designers for the look and feel of the environment. McDonald's is not shouting its presence. It has taken over existing premises and worked to local regulations. This is also shown in the Champs Elysee restaurant (Figure 5.14). Here red and yellow cannot be used, because city regulations state that in that street all shops and restaurants can only use the colours gold and white.

Figure 5.14. McDonald's on the Champs Elysee

The flavour of the images in Figures 5.12 , 5.13 and 5.14 is distinctly European. This sensitivity is sadly lacking in the Amman restaurant shown in Figure 5.15.

Figure 5.15. McDonald's in Amman

Here, a new building has been constructed which shows little sympathy for the building next to it. The structure and signage reflects little cultural understanding or adaptation. The signs are cluttered, poorly positioned, and out of proportion. The Figures in this section show a worrying trend for new restaurants in the Middle East to impose a style or set a trend which may be at odds with local culture and history.

Sign designers should take into account the age, history and style of the existing building, respect the scale, proportion and relationship with neighbouring buildings and consider the whole design including finishes and colours. Signs are part of the

city's built environment. The overall quality of the city landscape depends on how the different parts are arranged and fit together (Cockermouth, 2006). The visual quality of a city's built environment leads to an overall impression of the community.

5.4.5 Conclusions

McDonald's is a powerful, global brand which has a clear policy and aggressive sales technique. This is communicated to the franchisees, who in turn need to find ways of translating this message in a form that is acceptable to local culture, and which recognises local legislation. The sign designer has an important part to play in translating the vision into a series of visual statements that are in keeping with the local environment and the building on which the signs need to be place. This requires a sophisticated level of understanding of both top down and bottom up factors.

Schwarz (2004) argues that conservation areas serve to protect the existing architectural character or natural features such as the exterior building appearance, and signage is strictly controlled by the local regulations, where buildings must reflect the materials and colour palette of the city distinctive natural environment. However, where conservation areas have not been formed, it is the role of the sign designer in collaboration with the sign manufacturer, to protect the local heritage by ensuring that their designs are in keeping with and do not harm the environment.

This Sample of photographs show that buildings are defining feature of the city landscape. However, each facade displayed distinctive architectural style and detail, some buildings shared certain common characteristics, creating a cohesive physical image. These characteristics determine the height and width, setback, materials, colour, proportions of door and window openings, and roof shape or profile. Signs should be placed appropriately, respecting architecture details..

Designers should be aware of the local conservation area policies which contain controls on commercial signage (advertising and shopfront) design. The ability to provide a quality of commercial signage depends primarily on whether they show concern for the buildings and the areas which they affect and, through this, respect for the public to whom they are directed. Almost invariably, following these fundamental principles of good design will lead to visual and commercial success.
Designers must be able to provide signage for global brand that produces the right and effective visual solution in their local environment.

Sign designers are supposed to be brought into the commercial signage development process to complement sign industry in situations where a more active consideration of human perception can enhance the commercial performance of a signage system. Such practice fosters an unusual collaboration between these two parties, they share responsibility for the design of many of the same components even though each party is accountable for different aspects of overall signage performance.

The extent to which current training equips sign designers to work in this area is unclear. Certainly the examples given in this chapter (and earlier ones) indicate that there is a wide variety in the structure of buildings and the materials used for signs. These varieties require the attention of designers to understand the combined affect of public and private signs on urban streets specially in conservation areas and how to integrate signs and buildings into a unified design.
A list of key themes emerged in the case studies that could form the basis of competencies: corporate message; local outline; sales figures for the franchise; local architecture; where customers came from; enforced regulations and designer knowledge.

Chapter Six: Evaluation of the extent to which current training equips designers for working in commercial signage in Jordan

6.1 Chapter outline

This chapter provides an overview of the current state of the sign design industry in Jordan and the problems it faces. The types of people currently practising sign design are defined. An understanding of the current situation, derived from interviews with sign design practitioners will be used to evaluate the extent to which the current training in Jordan equips its designers to create effective commercial signage.

6.2 Introduction

The studies conducted earlier in the research showed that designers need a wide range of skills if they are to create effective signs that balance aesthetics, regulations, architectural requirements and the client brief.

From the case studies and the literature review, examples of key problems which practicing designers face may be summarised as follows:

1. Managing their client, and balancing the client's needs with what is possible and aesthetically desirable
2. Keeping abreast of new technology and materials
3. Understanding local rules and regulations relating to the position of its construction and health and safety issues.
4. Preserving the nature of the urban environment whilst introducing new elements into it.
5. Communicating information effectively.

Graphic designers are the professionals with most responsiblity for the design of signage in Jordan. Therefore, this chapter will focus on the history of graphic design in Jordan and how this has been affected by changes in the marketplace. Academic

concepts central to the progression of the profession, and the knowledge required for graduate graphic designers, will also be discussed. As no studies have been conducted by other researchers on the teaching of graphic design in Jordan, during the course of the research, the author wrote many commentaries on this, which have been published in EzineArticles (an online matching service of expert authors) and his personal blog Tobcreative.

Drawing on my own experiences as manager of a design firm (MIDAS -Modern Information, Design and Advertising Services, established in 1992) and lecturer (for over 10 years), I will discuss the ways in which graphic design education could be more responsive to the current needs of the sign design industry .

This will be supported by the results of a survey of practising commercial sign designers in Amman undertaken to understand the skills needed by graphic designers to practice sign design in Jordan, and the extent to which their training equips them for this.

6.3 Graphic design in Jordan

In Jordan, graphic design started as a profession before it became an academic discipline. Design and printing development in neighboring countries such as Lebanon, and the expansion of the Internet, has played a positive role in the transformation of the design and printing sectors in Jordan. Improved communication across the region has enabled the sharing of technology and training. The graphic design industry has also been assisted through the organization of international trade exhibitions.

6.3.1 The historic and initial stages of graphic design in Jordan

Graphic design may be considered as an activity that has evolved out of commercial art (Warburton, 2010). It was linked to advertising and later became a discipline in its own right with emerging new media.

It developed alongside the printing and information technology industries. Printing was brought to Jordan in 1925. The National Press, was the first printing house in Jordan, and its evolution in Jordan has been similar to that in other countries starting with wooden and then metal type. The available technology restricted the scope of the designer. The range of items printed was limited to newspapers, cards and stationary. Black and white printing gave way to colour with the introduction of photo zinc plates. The introduction of Offset printing in 1965 enhanced the quality of production, providing improvements in colour matching, picture clarity and reproduction.

Developments in printing technology and the rise of advertising expanded the role of the graphic designer in the 1970s, where s/he took responsibility for the preparation of original designs for advertising and automating of film montage and printing. Pre-press was considered the most important process in the production of the final printed article and relied not only on the skills of the graphic designer, but on the professionalism of the film montage technician for the preparation of backgrounds for the pictures and words. Until 1987 this process was carried out in just one location in Jordan which had the capacity to perform a wide range of handmade and mechanical techniques such as film colour separation, film montage, after camera processes, and plate making.

In the late sixties, design pioneers were not graphic designers, but those who had learnt collage and calligraphy. They were able to imitate designs from abroad,

and in some instances reproduced them. Their work initially ranged from logos, greetings cards, business cards, social stationary, letterheads and envelopes, and then progressed to brochures and folders. The work was mainly limited to newspaper advertising which relied predominantly on offset printing. The introduction of air brush technology in the 1980s provided designers with the use of graded colours and the achievement of three-dimensional effects, although the number of people using this technology was limited.

From 1970-87 graphic design was performed by painters, calligraphists and architects, as well as the first graduates of the College of Arts at Yarmuok University and international institutions. By the end of the 1980s, linotype was used as a publishing tool by newspapers, services centers and publishing agencies to prepare text for book or magazine printing. Designers prepared their layout by pasting the text on the matrix for the required pages next to the images or the art work. Linotype was also used to prepare the design of brochures and advertising materials that could not be hand drawn and, as time progressed, it was also used for the preparation of other materials, including business cards, greeting cards, posters and advertisements.

The design and printing sectors found the computer to be an effective way of improving productivity. In 1988, with the arrival of the first design computer by Apple Macintosh, the field of printing and design progressed and performance in the pre-printing stages was recognized with film-making and colour separation.

However, the initial expense of computers meant that their use was still limited. The production of personal computers by competitors of Apple Macintosh, as well as the ease with which film could be processed through the new software led to a wider uptake. Table 6.1 shows the increase in the registered number of design

establishments in Jordan between the years 1970-2011. The figures are based on information provided by the Ministry of Industry and Trade.

Establishments Classification	1970-1980	1980-1990	1990-2000	2000-2011
Art Design	6	41	63	23
Graphic Design	-	2	62	990
Publicity and Advertising	7	45	173	101
Internet Design	-	20	-	167
Signage design	-	-	7	153
Total	13	108	298	1434

Table 6.1. The registered number of design establishment in Jordan; 1970-2011.

Unfortunately, no authorized research has been conducted on the state of the graphic design sector in Amman. It has therefore been difficult to understand the market size and growth potential. Table 6.1 shows that the sign design as a profession was not recognised before 1998. Graphic design has been mainly centered in Amman which houses around 90% of the design establishments. There was a peak in the growth of new industries in the sector in 1999. Since then, some have declined while others have expanded, stagnated, changed management or merged. About 687 design establishments were liquidated and stopped their design activity between the years 1988 -2011 (MIT, 2011). This may be explained by the move from a labor intensive to a technology based business.

However, there has been growth in the number of agencies, design offices, free lancers, publishing houses and service centres throughout Jordan, who practice graphic design as part of their activities.

Personal computers affected the technical and artistic aspects of production. Some production centres were able to develop their skill base by recruiting experienced designers and in-house training. These highly trained individuals achieved expertise within and outside Jordan, and were able to compete successfully with others in the Arab regions and capture a share of these markets. Jordanian specialists became serious competitors in the Arab region and this has helped to further transform design and printing. The technological developments meant that Jordan could meet the demand for design and printing and became a magnet for many publishing houses (Abu-Awad, 2008a).

Jordan is now able to compete in terms of printing costs, quality of production and labour rates. Numerous production and publishing houses use the latest machines in design, prepress and printing sectors. This growth suggests development and technology will expand further. However, this development can only continue if there are sufficient well-trained local specialists who can continue to produce work of the highest quality. It is not solely the role of the industry to ensure this, educationalists have a part to play by providing graduates who are well trained and able to take part in this market (Abu-Awad, 2008a).

Abu-Awad (*ibid*) stated that the pace of technological development has made it necessary for academic institutions to provide the Jordanian market with skilled workers who can meet the high standards required. Academic institutions, departments and faculties require new strategies with which to remarket and reshape the image of their graphic design programs. These programs need to meet the challenges produced by market needs and new digital media.

However, it must be remembered that, in addition to adapting to advancing

technology, these institutions must support their academics in their quest to enhance the artistic, scientific and technological aspects of production and publishing. Design institutions may be challenged on this point. If they just focus on training people in the latest technology they will just create technologists and technicians. It may be argued that an individual needs to be trained as a designer before they can use technology. Additionally, with the increase in technology, art and design colleges will never be able to keep up with the latest software and hardware (AIGA/NASAD, 2005).

Therefore co-operative relationships must be forged between academic institutions and business leaders, ensuring that improved standards remain mutually beneficial and that the Jordanian graphic design industry keeps pace with both local and international developments.

The easiest way to judge the standard of sign design in a country is through its commercial signage as it provides a showcase for visual communication through locally produced advertisements. The speed of developments in sign manufacture has impacted upon both the sign design industry and the designers themselves. Designers have to continuously update their training to keep abreast of new technology, enabling them to be at the forefront of improving quality and creativity in all aspects of production.

6.3.2 Distinguished Graphic Designers

Graphic designers are distinguished by being one of the most creative of professions, working with both information technology and visual communication (AIGA, 1993a,b). The profession also entails dealing with the business world, in which credibility and ability are necessary to achieve high standards of creative work. For

this, education and talent appear to be essential (Roberts, 2005).

A graphic designer is not only an artist, s/he is also a a thinker and technician able to use the appropriate software and techniques to tackle the project in hand. Beside project management and problem solving, the graphic designers must go beyond promotion and display to effective communication with the audience.

When graphic designers design a signage, they aim to produce clarity from the information provided by the client, using available competencies and skills. In order to do this, designers must understand the relationship between the text and image, their visual legitimacy, the design potential of the software they use, as well as understanding innovations in, and the methodologies involved in the preparation for designs that solve the problem creatively (Design Council,1999 and2007).

The design sector in Jordan requires professionals to be able to select and classify information, and to create links between related elements. However, this will not be sufficient if they cannot also interpret this and transform it into definite forms. It is also important that the designer must understand how to use specialised design software to write texts, prepare drawings, animated cartoons, websites and sign design 2D and 3D software.. The designer should also know about design, timing, transformation, rhythm and visual presentation.

The potential of the designer should be realized through knowledge of the necessary theories and techniques (such as colour theory, sign regulations, environmental aspects, sign design software 2D and 3D and visual literacy, ergonomics etc.). To improve communication with audiences, enrich design proposals and understand the reflective aspect of the design process, studies and research

(Ellmers et al ,2009) . This confirms the importance of graphic design education and the fact that it is not possible for the students to be introduced to every type of problem as part of their training. Students must learn from their projects, which should start to resemble real life projects. In this way knowledge and theory can be applied to practice (De Freitas, 2002).

6.3.3 Market size and designers working in graphic design industry in Jordan

The qualifications of practitioners within the graphic design sector vary. The studies conducted in this research have shown that sign designers have qualifications from not only university and community colleges, but are also graduates from courses in software and interior design (Abu-Awad, 2008a). However, it is important to differentiate between the technician (who is a professional in using design software) and the professional designer (who has graduated from an academic institute in a design discipline).

A technician is not a graphic designer, their role is to produce or help in the production of a graphic designer's idea. The technician does not necessarily need to be creative but must have extensive knowledge of graphic software and production tools. Technician education or training provides entry-level positions in print production, graphic design, and newspaper production. Whereas a graphic designer takes information, uses this to create a concept, and designs pieces to reflect that process (AIGA,1993a). A graphic designer adopts a design process of choosing and organizing words, images and messages into a form that communicates and influences its audience. The process produces strategic results; which can be applied to the design of different formats such as posters, websites and packaging which; address contemporary issues, through a process of research, idea generation and, prototyping

(Design Council, 1999).

A graphic designer must be able to apply creative skills to their design work whilst drawing on elements of design and linguistic theory, visual eloquence and the history of art, literature, science, technology, industry and human studies (McCoy,1998 p23). Moreover, the value of the final product should be augmented through the manufacturing and printing process.

Table 6.1 shows that there are now over 1434 establishments engaged in some form of graphic design, classifying themselves as an agency, centre or office. There are over 5,000 graphic designers in Jordan, including those who have graduated with a degree in graphic design, in addition to those who work as graphic designers but have been trained in IT, computer science, interior design or architecture. Many have practiced this profession by learning to use design software, such as Adobe Photoshop, Illustrator and CorelDraw, and have joined this field because it is considered to be a lucrative career choice requiring relatively little investment.

The markets in Jordan and the Arab Gulf may not be capable of absorbing all graduates as was shown in 2009 -2011. Employment depends on the level of training and visual communication skills. Continued growth requires the presence of skilled workers capable of meeting the needs of the market, but also on the extent of opportunities to practice design.

This provides an incentive for educational institutions to develop strategic plans to provide education that caters for both the existing and future needs of the graphic design market.

6.4 An investigation of professional sign designers in Jordan

As has previously been mentioned the lack of regulation in environmental signage was addressed in 2007. The new changes may have affected the production of the sign industry but did not reduce the number of the sign makers (section 4.4.4.4.4). The need for such regulation called into question the ability of sign designers to produce signs that were sympathetic to the environment and architecture of Amman, whilst still satisfying the needs of the commercial sector. To compensate for the reduction is signage on the skylines, more signs have been produced at eye level. This includes , using windows as signs and in tunnels, again causing confusion and clutter (Figure 6.1a,b; 6.2a,b) in different locations. This calls into question the extent to which sign designers regard the wider appearance of the environment in their jobs.

Figure 6.1a. Signs on windows and growth in signage at eye level

Figure 6.1b. Signs on windows and growth in signage at eye level

Figure 6.2a. Signs at the tunnels

Figure 6.2b. Signs on concrete side walls of buildings

In concentrating on the clients need to promote their business through the construction of more and bigger signage, an unpleasant multitude of signs was is created which does little to enhance the beauty of the city or reflect its architectural heritage. It may be argued that the systematic failure of sign designers in Amman to deal with such issues points to a failure in their training and understanding.

Therefore, the crucial question is, to what extent does the training of sign designers enable them to function effectively and responsibly in the current climate. This is complicated by the fact that the profession has many entry points, so those with a university education will have a different level of training to those graduating from a community college, or those who have migrated into the industry through another route e.g because of technical proficiency. Therefore a study was undertaken of professional sign designers between September and October 2008.

6.4.1 Aim

The aim was to understand more about the work of those practicing sign design in Amman, their level of education, relationship to clients, design practice and the skills they need to work as professional designers.

6.4.2 Objectives

- To investigate how designers' skills enable them to design signage that is attractive, functional, and that promotes a positive image for commercial areas and the city as a whole.
- To understand the ability of designers to enhance overall property values and the community's visual environment by encouraging the development of appropriate signage.
- To understand the practice of commercial sign design in Jordan
- To understand how designers encourage creative and innovative approaches to signage, which comply with signage legislations.
- To discover gaps in knowledge and training.

6.4.3 Methodology

Thirty semi-structured interviews took place with members of the graphic design and sign industry sectors in Jordan (Appendix 4). The participants were invited to share their thoughts about their education, work and profession. Purposive sampling was used in order to represent graduates from universities, community colleges and other institutions (Kvale, and Brinkmann, 2009).

Thirty designers were invited working from graphic design and sign industry sectors, twenty seven designers agreed to be interviewed. These work in the 17 most

important design houses in Amman; 13 designers worked with sign manufacturing companies. 20 designers were had graduated from university and 7 from two-year community college courses. The remaining three were introduced to graphic design through a 90-hour design software workshop in private centres. Of the 13 designers seven had been trained as interior designers. Together the participants had between one and six years' experience.

The interviews were held on the design premises or public places at a time of convenience to the participant. All interviews were audio recorded.

6.4.4 Interview Analysis

The interviews were analysed using Thematic Analysis (Braun and Clarke, 2006). This is a recommended technique to be used where rich and broad thematic description is needed, where literature is scarce and little is known about the core issues (Boyatzis, 1998,b). In such cases thematic analysis serves to identify important issues within a topic, such as identifying users' needs from focus group discussions and is, therefore, recommended as a means of influencing policy development (Braun and Clarke, 2006).

6.4.5. Interview results

The following sections outline the results of the interviews, and are given in percentages where appropriate.

The responses provide a range of views suggesting that in addition to their education, there are additional factors that influence commercial sign design.

6.4.5.1 Themes:

Seven themes emerged from the analysis -: the discipline of graphic design; sign design specialism; projects undertaken ; skills, experience and education; the sign

design process; conflicts in practice and environmental graphic design knowledge.. Then themes were defined from patterns such as conversation topics, vocabulary, recurring activities, meanings and, feelings). The "coherence of ideas rests with the analyst who has rigorously studied how different ideas or components fit together in a meaningful way when linked together". (Leininger, 1985, p. 60). Constas (1992) reiterates this point and states that the "interpretative approach should be considered as a distinct point of origination" (p. 258).

6.4.5.1.1 Theme 1: Graphic Design as a discipline

The participants like and are inspired by graphic design and they were happy to join a design institution. Of the 30 interviewees, 90% said that they had chosen their major in graphic design as a result of their interest, talent and desire. For example:

> ‘‘Graphic Design was my dream while I was in secondary school. I did not know much about it and simply knew that it deals with advertising. However, being interested in drawing in school encouraged me to think of graphic design as a major in my undergraduate education.’’

> ‘‘I had no artistic ability, but I was interested in studying graphic design. Unfortunately my father could not afford the university fee so I applied to a community college.’’

> ‘‘I can’t imagine doing anything else. I share the story of how I become a graphic designer and how I always knew I would end up there. I always knew I was going to fit into the design industry somewhere and am so pleased that I have a job I love.’’

10% of the interviewees had chosen graphic design as it appeared fashionable, did not require high entry qualifications and was lucrative (with starting salaries sometimes 50% higher than in other professions)! Computer ability/technical skills also influenced the choice.

> ‘‘It was my desire, I decided to study graphic design because some successful designers are able to earn a good salary and have an excellent social reputation. Also, I enjoyed using computers. But the real field is different,

there are many influences, you must understand what the client needs and how to fulfil this requirement with the right solution.''

''I could not join any other majors, my lowest high school rate did not help, so I joined a graphic design course. I knew many people without any talent or desire and they passed the course and are now working. It is largely based on computer skills.''

''It is a computer skill, just by being excellent driver to design software, and how to prepare the design to prepress stage. You are done. Ideas can come easily we have a good library and our Art director shows us sample of the work to be done. If I work well, my salary will be great that I never dream of.''

A designer who had 30 hours of training in a computer training centre on each piece of software defended himself by saying..

''I do not know why designers graduate from universities do not recognise us, a graphic design job requires the technical skills to use design software programs such as Photoshop or Quark Xpress. You may learn other specific software in any training centre. I am getting a salary better than some university graduates.''

Graphic design practice may be inherited as parents encourage their sons to adopt their professional path.

''My Dad's friend owns a design company. He convinced me to think of this major. Once I finished my school, I signed up at a local college, doing part-time college, part-time working with a good salary. Colleges are the best for design because classes are small and it is cheaper. We did not worked on sign design projects at the college. Now I am learning more about sign design stages and varieties of material.''

''I joined the college to learn graphic design, I never thought to work in a sign making firm, my dream was to work with a design house. I could not find a job elsewhere. Here, my duty is to prepare the design of the sign content and later my manager tells me what to work further under his supervision''.

The remaining interviewees held degrees in interior design, IT or computer science.

''I am an interior designer, I taught myself to design in Photoshop and Illustrator. I am learning all the time. My background in interior design helps me to learn the sign design software in 3D. My role is to show the sign how it looks in 3D''.

An IT professional said:

> ‘‘I found learning in my own time over the past 3 years has helped me. The training courses I have done helped me to understand the design programs I use, such as Adobe Illustrator, Photoshop and Indesign. But I find it is all about imagination and learning from others. Designing a sign does not mean to design the content, I have learned here that sign design is related to technical drawings.’’

95% said that what they had learnt did not fully equip them to be practitioners. They had developed new skills while practising in the commercial field that were not achieved during their formal education, such as design research skills, analytical ability and conceptual thinking. However, the most important factors which had been missing in their formal education were the meaning of sign design as a stand-alone art-form, and how to use design briefs and design proposals.

6.4.5.1.2 Theme 2: Sign Design Specialism

None of the interviewees had learnt sign design as a separate course or module. However they might have completed an advertisement design module as part of their course. However, such graduates stated that this module did not provide them with the skills they needed to work as professional sign designers.

> ‘‘We used to design billboards and signs for shops, and to deal with it as we would design a poster. The size of the sign is known and we just organise the elements, such as images and texts, then prepare it for printing.’’

> ‘‘It is part of a module that teaches us advertisement design, and outdoor advertisement is part of it. But the module is not focussed on sign design.’’

> ‘‘Our tutor asked us in a module titled “ Graphic Design II” to redesign a trademark design, its package or label, a brochure, a newspaper ad, a magazine ad, and at the end of the project we designed its shop front sign and a billboard. We think here of the materials to be used. We visited a sign factory to know how they print the sign and how they produce tube light signs. We faced a problem of choosing the right typography and sometimes the wrong material. It did not equip us with the right skills.’’

85 per cent of the interviewees did not consider themselves to be sign designers, they felt that they needed more knowledge to be good practitioners. Others felt that they could term themselves in this way because of the amount of experience they had achieved working in the commercial marketplace.

> ‘‘Frankly with the new technologies in sign manufacturing, I do not think that I am able to design every sign. While studying some signs on the building facades in Amman I found that some signs are not printed and their design is based on using special material. It makes me feel that there is a missing knowledge that I need. If I am to be involved in sign design I have to research before I start my design, mostly about the materials and the proper design for it.’’

> ‘‘Since I joined the sign industry, I have learned a lot. This learning was missed at the college. Dealing with the sign as a 3D object and how it will be projected on the façade of the building or the shopfront, how people will perceive it, the right choice of typography are things I have learnt since I started work.’’

> ‘‘I do not consider myself sign designer, it has its own world.’’

> ‘‘I do not think that there is a module which focuses on sign design as a major subject, and I do not feel that the tutor themselves are equipped to teach this. Some of the tutors do not have a major in graphic design so what will they do for sign design?’’

Of the sample, 85 per cent said that specific knowledge is needed to practise sign design. They said that their education did not cover issues closely related to sign design, such as sign design principles, properties of materials and how these are processed, regulations, sign technology, environmental aspects, and the architectural environment. Focussing on the content of the sign, its message and its audience, rarely did they consider architectural factors in their designs.

6.4.5.1.3 Theme 3: Type of Projects

Of the projects that practitioners worked on 80% were in advertising, corporate signage or promotional media. 20% of the interviewees who practised in design firms said that they did not work on sign design projects often and that most of their projects were concerned with printing production. A designer working in design house said:

> ‘‘In our design house we do not receive sign design briefs as most of our customers go directly to the sign manufacturer. Mostly we design corporate identity, brochures, posters etc.’’

Another designer said:

> ‘‘We did work on designing signs, and we do receive design briefs. Mostly it is ready from the original companies, the owner of the global brand, so our design proposal is based on their design brief and it is fixed.’’

> ‘‘Part of our design firm customers prefer to deal with the sign industry as they do not pay for the design. Most of our work is to design for printing production.’’

A designer works with sign Manufacturer Company said:

> ‘‘I design largely shopfront signs, billboards advertisement, promotional signs placed on shopfronts, pole signs, pylon signs and wall signs. I learned how to prepare the design for these signs here in the work field.’’

A Designer works with a sign manufacturer said:

> ‘‘Our work is ranged , customers chose based on what their business size and how much they can usually afford, and how much space they usually have. Mostly we design flat wall signs, illuminated box wall signs, wall sign with channel letters and awnings. These are mostly for shops. Before the removal of signs, we used to design sign for business in the second and third floors.’’

> ‘‘Our company is considered the most advanced, so we deal with all types of signs. Signs are such a varied, different type of sign and material that can be produced. Each sign has its own requirements and need its special solution.’’

It was clear that designers who work for graphic design houses mostly execute design for print production, multimedia or websites. Some of them work on the

content of the sign, but are not involved in deciding the type of material used or where the sign will be placed.

6.4.5.1.4 Theme 4: Skills needed, experience and education

Participants expressed their interest in being part of the professional graphic designers who practice sign design. They wished to have a clear philosophy regarding sign design, and conceptual approaches to working on complex projects. Design provided the broadest range of creative opportunities. It also appealed to their personal interest in two- and three-dimensional work including everything from poster design to a major signage system.

Of the sample interviewed, 90% said that the basics of design, namely conceptual thinking, drawing and painting, are the most important ones for any designer.

> ‘‘ It is important for me as a graphic designer to know how to generate an idea. This idea needs to be supported with other skills like drawing and painting in addition to design software skills.’’

> ‘‘Drawing is essential for the designer, enabling him to do sketches before he starts designing. It helps the designer to visualise his work. Design software is important too.” “I agree that drawing is important, but I felt that I was a fine arts student more than a graphic design student. I think that tutors were reflecting their own experience on me not preparing me for market.’’

> ‘‘We did not learn about types and purposes of signs or issues of legibility and visibility. I do not think that I understand the technology and media used in sign making. Not me most of my colleagues. This is something we might learn in the field. The ability to keep up to date with new skills and techniques is much of importance in sign design.’’

However, all designers agreed that it was important to recognise sign and graphic design as their own specialised art forms.

> ‘‘Signage now days has its own world and industry, we see now that the sign industry in Jordan is growing and needs designers. When we come to work in sign industry we find that we need certain skills in typography, mechanical drawings, environmental knowledge and design and materials.’’

> ‘‘It should be a separate discipline or faculties should teach sign design as part of graphic design.’’

> ‘‘Yes, it should be taught as special subject in sign design. This will help me to say with confidence I am a sign designer.’’

75 per cent of the participants said that sign designers must be talented and academically equipped (theory and practice), in addition to having other specific skills such as problem-solving, ability to communicate their ideas visually, verbally, and in writing. They felt that there was a lack of self confidence in presenting and articulating designs.

> ‘‘Talent is a must, when the students are talented the competition will raise the standards. Unfortunately this is not considered, and why we found some students were not involved in the education process and just passing time.’’

> ‘‘There is a great gap between what we learn and what we face later in the field: team work, problem solving, brain storming, reflection and evaluation. These are important for the students to learn and practice.’’

> ‘‘We learned about composition, design theories and methods, design techniques, and commercial printing techniques. However, I have never been able to talk about my work or make a presentation.’’

> ‘‘The type of information and skills that a student needs are issues related to the tutors’ qualifications and his understanding of the topic he teaches. We found that those tutors who are involved in the field are more informative and incapable to connect the theory with the practice.’’

Crucially, of those interviewed, 95 per cent raised the importance of appropriate education to the development of sign designers. They agreed that universities and colleges were not providing students with all the necessary skills to enable them to easily integrate into the commercial field.

6.4.5.1.5 Theme 5: Designing an effective sign

Together the designers had produced a range of signs for shopping malls, fashion boutiques, cafés, restaurants, schools, gyms, and cultural facilities. Through their work they recognised that most of this concerned corporate signage on a wide range of media such as billboards, pole signs, projections and sophisticated neon constructions. Some material requires a special design they need to understand more about it.

85 per cent said that they needed to know the size, message, design elements and intended audience and that these were sometimes provided by the client.

Their answers reflected that they consider the content (product, service, corporate) of the sign being designed. 85 per cent said that they needed to know the size, message, design elements and intended audience and these sometimes were provided with this by the client.

> ‘‘The customer provides me with the image, text and the size of the sign, and I start my work.’’

> ‘‘Once I receive the information from the customer, I start my design. Usually the information is about the size, the audience, colours, images, and the text.’’

Only 15 percent said that it is necessary to know more about the type of sign, its location, surrounding environment and its subject.

> ‘‘I need to know the location. This will help me to know how the sign I am going to design will look compare to the other signs and the surrounding environment. The function of the sign is also important.’’

> ‘‘Beside the text and images, I need to know the location. This will help me to decide about the material. Sometimes the customer decides the material and the size.’’

Of the sample 85 per cent identified that effective signage requires clear message that is easily delivered, is attractive and is situated in the right location.

One sign designer said:

> ‘‘An effective sign means that the sign should be visible, legible, and clearly visible and designed well. It should complement the architecture.’’

The way the designers understand what constitute an effective sign is vague. They thought about the message and the image and how these should be attractive. They thought about the appearance of the content but not its legibility or how it should complement the architecture, or how it would be viewed by different people in different circumstances. An attractive, well designed sign should be placed in a location that optimizes its visibility to the passing viewer.

6.4.5.1.6 Theme 6: Conflicts in Practice

Working conditions varied. Designers employed by large advertising, publishing, or design firms generally worked regular hours in well-lit and comfortable settings. They frequently adjusted their workday to suit their clients' schedules and deadlines.

Of those questioned, 95 per cent said that they had encountered problems in their work which might have been alleviated through a wider curriculum. ‘I do not know exactly what to design, because the customer already has his own ideas of what the design should be.’

> ‘‘I design for the sake of production and to satisfy my boss. Creativity does not matter.’’

> ‘‘I feel that there is no need to study and get a degree in graphic design, I do not find myself and style in work.’’

> ‘‘In my design house we got a wide space of creative work, we are free to create effective designs. The art director forces us to think, research, reflect and then create. In most of the advanced design houses you will find this process. It is a different world from university.’’

Most conflicts mentioned related to dealing with the customer's personal taste and influence. Such comments reflect a lack of confidence which could be boosted by greater knowledge and mastery of design skills. Design technology, terminology and analysing the information available also has great impact on a designer's ability to complete their work satisfactorily.

> ''Because my boss thinks he knows exactly what the customer wants.''
>
> ''I did not have practice on Indesign and in work we must use this software specially for publications, such as magazine and books.''
>
> ''I am very slow and it creates a problem in work, I have no idea about the prepress terms and printing issues. I feel that I am weak.''

Sometimes the owner of the design firm has an influence that can be problematic, especially when he/she is not specialized in design.

> ''I must keep in my mind what the customer taste is, and that his wife or secretary must agree on the design.''
>
> ''The customer knows everything and he understands how to make a design but he does not have time to do the design so we have to make it.''

This shows that the designers may lack communication, decision making and project management skills or authority.

6.4.5.1.7 Theme 7: Environmental Graphic Design

22 participants stated that they were not familiar with the term 'environmental graphic design', but felt that it might relate to environmental issues. 8 participants stated that they have read about it, but not in Jordan. They considered it to embrace many design disciplines with a focus on way finding and the visual aspects of signage.

6.4.6 Conclusions

The interviews clearly revealed that the professionals interviewed had not undertaken a specific module or training in sign design. The nearest related subject was advertising design which incorporated outdoor advertising. As such, although they are able to apply graphic design principles to sign design, they may not be aware of other factors which are specific to outdoor signage (such as materials, erection of signs, environmental factors and regulations). Instead they concentrated on the content and the message to be conveyed.

Sign designers do not focus on issues such as human factors in the architectural environment (the relationships between architecture and our bodies and our senses, how the spaces we occupy affect our perception of ourselves and others, and how we respond to the provocations of form and spaces with our behaviour and our social relationships), fundamental concepts of positive theory in environmental design , the relationships between positive theory in environmental design and the formation of values into normative and aesthetic theory, typography, visual literacy and how to employ graphic design principles to enhance corporate and retail spaces.

The use of the design brief and its function as part of the design process was not discussed in the graphic design courses. Academic briefs tended to emphasise design content and rarely focused on issues related to material or integrating design with an environment. Likewise little training in professional practice was given. This meant that junior designers were not familiar with dealing with clients and industrial working practices.

Clearly, an undergraduate qualification in graphic design, whilst usual, was not the only entry qualification into the industry. Designers were accepted based on their college qualifications, and in smaller firms on the basis of prior experience and software expertise. Although the job appeared (financially) rewarding and enjoyable, for most (85%) it presented hurdles relating to the nature of the work, the software and design management issues. They felt that their training and their graphic design institutions did not support and develop their skills to enable them to fully contribute to the commercial market.

95 per cent of the interviewees agreed on the importance of appropriate education to the development of sign designers and agreed that universities and colleges were not providing students with the necessary skills to enable them to easily integrate into this commercial field. Their comments were based on their own experiences and they were able to provide examples of where they felt a gap in their skills.

The interviews indicated that design tutors may not focus on their practical values and theories through the examination of their practice. Teachers do not know how the students have generated their idea and why it was explored. Additionally, a designer practising in today's competitive market needs a comprehensive understanding of the latest production techniques and materials, environmental and regulatory issues. It is hypothesised that a structured module or course in sign design could equip students with this knowledge and enable them to become successful commercial sign design practitioners.

The key themes which emerged from this study show that designers are not equipped with competencies that are related to sign design. They need in addition to

graphic design competencies more focus on: visual thinking, research skill, knowledge of the process; reflection on the work; knowledge of materials; knowledge of manufactory; identification; perception; and typography.

Chapter Seven: Comparison study of graphic design teaching in higher education institutions in Jordan and the UK

7.1 Outline of chapter

This chapter starts with an analysis of graphic design teaching styles and course content in Jordan and continues with an analysis of the same for the UK. The final section provides a comparative analysis. The studies were conducted between 2008 and 2009 with HEI tutors and lecturers in both Jordan and the UK. The analysis reveals that students in both countries had varied educational experiences in relation to education in sign design as part of graphic design courses. Quotes are included where these are relevant to the points raised.

7.2 Introduction

To set the context for this part of the research an overview is included of the history and organisation of graphic design teaching in higher education in both countries.

To achieve the third objective of the research a study was conducted of the way in which graphic design is taught In Jordan and the UK to evaluate the extent to which current training equips graphic designers for a career in commercial sign design. As most of the sign design practitioners in Jordan are graduates from graphic design courses, and those interviewed commented that their training did not adequately prepare them for practice, it is important to investigate what is actually taught in the courses and whether the perceived gaps are as described, and are present in countries with more established courses than Jordan.

Graphic design education in Jordan is quite new, and as a profession started in the 1970s as a companion to printing. This is in contrast to European countries, which have a printing tradition going back to the fifteenth century.

As well as being fairly new to educational programmes and industry (Abu-Awad, 2008a), graphic design in higher education is becoming more popular with enrolments in both universities and community colleges accelerating in the last 20 years. This fact is evident in the rise of the number and type of institutions teaching graphic in Jordan (see section 7.3 for more details).

Although the sign industry has witnessed many technological advances, educational establishments have been slow to change their programmes to provide industry with the well equipped designers it needs.

7.3 Evaluation of higher education training in Jordan

Higher education in Jordan started in 1951 with a one-year post-secondary teacher training class. The first University programme began in 1962 with the establishment of the University of Jordan. There are now 24 Universities in Jordan, 15 of which are governmental and the rest are privately owned. Three governmental and eight private Universities teach Art and Design. In addition there are 22 Community Colleges that teach graphic design.

The emergence of academic institutions specialising in the arts began at Yarmouk University. The Department of Fine Arts at Yarmouk University was established in 1980 as part of the Faculty of Arts and Humanities. The Department of Fine Arts was then established at Applied Science University in 1993 and is now the Faculty of Art and Design. These were the first two educational institutions specialising in Art and Design in Jordan. This situation differs from many other countries where art and design education has existed since the eighteenth century.

The total number of design students at Universities in 2008 was 2,017 students and in Community Colleges 3,579 (Ministry of Higher Education, 2010). The graphic

design curriculum at Community Colleges and Universities differs in terms of length and learning style. The colleges award a two-year diploma, while the Universities provide a full three-year undergraduate programme leading to a degree. Differences exist in relation to the teaching of creativity and technical skills and the level of understanding of the production process, product identity, knowledge of software and design innovation.

Graphic design includes topics such as poster, banner and sign design. However, these have not been clearly differentiated or distinguished in terms of teaching and learning elements (Abu-Awad, 2008a). Additionally, as graphic and sign design are lucrative occupations, it is difficult to attract professionals into University to teach undergraduates. Placements and visits provide opportunities for students to learn more about design as practised. However, as in many countries, students are not guaranteed a first class placement, where they will work under the guidance of a caring professional, willing and able to teach young students.

Also, in Jordan graphic design and graphic art may be confused. These differences are particularly obvious when the student enters employment. In particular, when teaching student's a graphic art based practice not graphic design, it looks as students are learning fine arts. As well as the ability to use technology which now involves the computer as the main graphic design tool (Abu-Awad, 2008a).

A distinction can also be made between courses on the basis of the emphasis placed on technology. Some academic institutions concentrate on technology and the practical aspects of design software, whilst others focus on developing the ability to use knowledge and connect ideas to the psychological and social context, and include studies of design theory and methods, design psychology, and visual language.

Informal meetings with academics and professionals to discuss teaching and learning conducted as background to this study have revealed:

1 A lack of academic experts in graphic design, possibly because it is a lucrative profession that academic salaries cannot match

2 An absence of appropriate study plans for creating graphic designers

3 An absence of a system defining the role of different types of HEIs in the teaching of graphic design

4 The absence of entry examinations to graphic design courses, unlike courses teaching other arts specialisations

5 A lack of understanding of the concept of graphic design in an industrial context

6 The absence of an official government role and support for the establishment of a core curriculum for University courses in graphic design.

Teaching in art and design departments at a number of Universities and assessing graduate projects has provided me with an opportunity to find out more about graphic design teaching across Jordan, and the standard of students' work. I have noticed that the lack of specialised tutors negatively affects teaching and that teaching methods in some Universities do not produce good designers. There is a lack of competitiveness in design education which would improve educational standards, and an arbitrary use of teaching methods. Objectives may be clearly defined, but the failure to use appropriate teaching methods (such as attempting to practise experimental pedagogy in order to continually adapt to changes in tools, media and audiences for design) leads to failure to achieve these objectives. The current practice of using non-specialised tutors is combined with a lack of understanding of current

best practices in graphic design. This obstructs the growth of graphic design education. There are few educators who are masters of their craft and who employ a range of instructional strategies. Naturally this reflects on sign design education and its outcomes.

Jordanian HEIs do not teach sign design as a specialised module or course. Students learn about designing signs when they join a course that includes outdoor advertising. They learn how to design the message required by using billboards or signboards.

The increased interest in design education has arisen as a consequence of the rapid development of information and computer technology and the marketplace for graphic design (Abu-Awad, 2008a, 2008b). Enrolment on graphic design programmes has increased as different forms of visual communication have become fashionable in Jordan

Both universities and community colleges appear to qualify graduates to work as graphic designers. Community College graduates are qualified to work as technicians in the commercial field, but graduates from a four-year University course in graphic design are qualified for entry-level supervisory, trainee, or management positions.

7.4 Aim

The interviews with practising designers (discussed in Chapter 6) showed that many designers felt that their education had not fully prepared them for their roles as sign designers. However, such testimonies may be unreliable, and courses may now have changed. Therefore in order to understand contemporary teaching and learning.

interviews were held with a number of faculty staff from Jordanian Universities and Colleges.

7.5 Objectives

The investigation sought to provide an understanding of:

1. The factors considered in designing or planning a graphic design course, featuring environmental signage
2. The way in which the course relates to sign design
3. The current and future role of design institutions in teaching sign design and how this can be developed for designing better commercial signs
4. The course content and method of delivery. The gaps in content when compared to the needs of practising designers
5. The skills needed to become a sign designer
6. The way in which courses deal with aspects of sign design that may not usually be covered in graphic design teaching such as materials, technology changes, environments aspects and urban design developments.

7.6 Methodology

Of the twelve design academics approached, nine responded. These were responsible for teaching Graphic Design at: Applied Science University (Private), Yarmouk University (Public), University of Jordan (Public), Philadelphia University (Private), University of Petra (Private), Al-Zaitoonah University (Private), Amman University (Private), Al-Quds College, Community College, Al- Khawarezmi College (Community College). The interviews were analysed qualitatively using Thematic Analysis, by refining the data the researcher moved his analysis towards discovering patterns and developing themes.

7.7 The Results

The results of the interviews are discussed under six themes discussed in the following sections.

7.7.1 Theme 1: Influences on the development of a teaching programme

Assistant professors from Yarmouk University and Applied Science University stated that until 2007, Jordan had only three PhD and two Masters Degree holders in graphic design, employed at two Universities. Other academic staff members were specialised in fine arts, textiles, graphic art, art criticism, art education, advertising and aesthetics. This situation forced academic institutions to send students and academic staff members on scholarships to gain postgraduate education in graphic design.

They added, following the creation of the Higher Education Accreditation Commission and the Council of Higher Education, Universities in Jordan started to adopt more rigorous criteria for the accreditation of each programme of study.

The Higher Education Accreditation Commission requires the curriculum of any graphic design specialisation course to conform to the specifications set by the original committee. In addition, a Commission Accreditation review focuses on educational quality, institutional integrity, and educational improvements. This process results in the awarding of a status of recognition, and a licence to operate within a time-limited period. This ensures that the institution's mission and purposes are appropriate to higher education, consistent with its charter or other operating authority, and that these are implemented in a manner that complies with the standards of the higher education. A mission statement gives direction to the institute's activities and provides a basis for the assessment and enhancement of the

institution's effectiveness. Accreditation is usually given for a limited duration of time after which re-accreditation procedures come into operation.

The Higher Education Accreditation Commission determines policy in designing the course structure. The course structure in Community Colleges is part of this official monitoring. When the department of graphic design is part of an Art and Design faculty, or another faculty such as Humanities and Art, the structure of the courses can be adversely affected, with many credit hours being focused on topics related to other disciplines in the faculty, rather than to design.

Graphic design courses have changed greatly in the last six years, and this transformation is largely due to the efforts of Jordanian officials and Jordanian graphic design tutors. These believe that the teaching should be re-structured to reflect changes in graphic design practice, both in Jordan and internationally, and to acknowledge developments in technology and production methods and the economic structure and culture.

In 2003, I attended a workshop organised by the Higher Education Accreditation Commission to study the state of graphic design education and its practice in Jordan. The discussion included factors such as course structure, tutors' qualifications, market requirements and future changes. However no mention was made of including other elements such as sign design.

All participants interviewed stated the importance of changing graphic design teaching from the semester system (136 Credit Hours) to an annual system, as they believed that this would allow more time for students to develop their interests. They

also emphasised the importance of nominating specialised tutors in graphic design. This raises the problem that most design institutions suffer from a lack of expert teachers in graphic design. The role of teaching graphic design was also discussed, in particular the important differentiation of the University courses. University graduates do not have the same skills as the Community College graduates.

7.7.1.1 At the Universities

Participants highlighted the fact that the 12 universities offering graphic design are intended for students who wish to seek employment as graphic designers in the areas of corporate identity, publishing, advertising, packaging, digital media, illustration, information design, television, animation and interactive media.

These four-year design courses consist of 132 to 138 credit hours. These credit hours are the major difference between Universities and Colleges. Students on University-level courses need to have passed foundation level courses in order to fulfil the University's entry requirements, and will then study perspective, drawing, painting, 2D and 3D design, design psychology, design methodologies and theories of design. Other specialisations offered may include typography, popular culture and professional practice, photography, animation, packaging design, advertisement design, colour theories and techniques. Students are also required to complete a final project.

The degree structure is formed out of a sequence of units which are closely linked to the core program of graphic design and supported by studio specialisations and theory units, as well as by ancillary units directed towards contemporary professional methods and skills (Table 7.1).

Requirement	Compulsory	Elective
University 24-27 (Hrs.)	18-21 (Hrs)	6-9 (Hrs)
Faculty 21 -24 (Hrs.)	15-18 (Hrs.)	6-9 (Hrs.)
Department 85- 91 (Hrs.)	79-84 (Hrs.)	6-12 (Hrs)

Table 7.1. Graphic design course components in Universities

University requirements

The University requires additional tuition in: Arabic language, English language, computer skills, national studies, Islamic studies, human rights, introduction to sociology, humanity and environment, introduction to library science, the Palestine cause and economics.

Faculty requirements

The faculty requirements consist of: art history, principles of 2D/3D design, perspective, digital and photo media, art studies (English language), computer graphic skills, marketing and visual language.

Department / specialisation requirements

Specialisation requirements may include: art anatomy, introduction to drawing, graphic design principles, graphic design history, communication theories, design by computer, design theories and methods, poster design, corporate design, advertising design, animation by computer, graphic arts and techniques, typography, and commercial printing techniques. Although course titles may differ between institutions, the course content remains the same at all Jordanian Universities

This shows the absence of sign design teaching among the course requirements mentioned above.

7.7.1.2 At Community Colleges

Non-university and vocational studies are offered in Community Colleges, access to which is open to holders of all types of general secondary education certificates. The two- to three-year programmes encompasses many fields, such as arts, science, management, business administration and engineering. As of 1997, all public Community Colleges are under the supervision of Al-Balqa Applied University. At the end of two year courses, students sit a comprehensive examination (Al-Shamel). Those who pass are awarded the Associate Degree / Diploma.

Community college tutors asserted that two-year graphic design in Community Colleges consisted of 82 credit hours (Table, 7.2). These courses provided students with fundamental skills in design and related technology, enabling successful students to find employment in commercial arts. Students may study art, design, colour, composition, typography and illustration, and learn to apply a variety of studio art and computer design skills within the context of a technical environment. They will develop a professional design portfolio and, in their field placement, connect classroom learning with workplace experience. As a college graduate, each student is supposed to be prepared to enter either the workforce or a bachelor's degree program. On completion, they should possess a combination of strong technical and visual problem-solving skills, communication skills, knowledge of art and design principles, and competency in working with multimedia technology.

Requirement	Compulsory	Elective
University 15 (Hrs.)	15 (Hrs)	-

Faculty 5 (Cr.Hrs.)	5 (Hrs.)	-
Department 62 (Hrs.)	62 (Hrs.)	-

Table 7.2. Graphic design course components in Community College

College entry requirements

College entry requirements consist of the following: Arabic language, English language, computer skills and Islamic studies.

Faculty requirements

Graphic design workshop, ICDL.

Department / specialisation requirements

Specialisation requirements consists of the following: introduction to graphic design, history of graphic design, graphic design technology, computer digital photo retouching, digital drawing, drawing, computer animation, graphic design software, typography, 2D and 3D design, packaging, photography, advertising design, sport activity, military and national studies.

7.7.2 Theme 2: Shaping students' attitudes

Participants from all HEIs said that wider studies (such as communications, social sciences, physical science and English) provide students with the knowledge required to attain an entry-level position in graphic design.

Students can expect to draw many pages of thumbnails and roughs, meet strict deadlines and analyse the work of peers through group critiques. Graphic design courses offer daily immersion in design through intensive homework projects, lectures, field trips, seminars and workshops. Evaluation is part of the design process, and the capacity for self evaluation enables students to be more critical of their own performance and therefore to be able to work more efficiently.

Each course has three main exams in each semester for each module (practical or theory):

- First exam 15 per cent
- Second exam 15 per cent
- Final exam 50 per cent
- Research and Motivation 20 percent (based on a written research discuss a topic which is part of the module requirements, and the students flow work).

An assistant professor from Applied Science University confirmed the importance of the design brief and design proposal. He stated that it is part of the teaching process in the second year. Later they are taught to analyse the design process and its elements. On graduation students will be expected to be experts in these areas.

An Assistant Professor in Yarmouk University commented:

> ‘‘We must also teach them how to start collecting information and analyse it as part of the design brief, and then how to work on the first sketches for the required design, then to produce the semi-final sketch and then final sketch. This will enable students to understand how the design process serves the aims of their clients, how to convey the message of the design and to be more confident about what they present to clients. Once a student has considered the basic facts about the design, he/she will be able to prepare their design proposal.’’

7.7.3 Theme 3: Teaching graphic design materials and techniques

All participants confirmed that institutions teaching graphic design should adopt a formal approach to design education which enables students to develop the techniques of skilled craftsmanship, through a well-designed curriculum especially designed to equip them with the skills needed for successful employment. Getting a formal education in design is just the first step.

Assistant professors at Applied Science University, Philadelphia University and Amman University focused on the need to revise their teaching methods and tools, and to be aware that technology is always improving and changing. However, all participants emphasised their role by stating that design education allows students to build a solid basic foundation and inculcate good processes, discipline, and good methods of brainstorming and concept creation. Subsequently, students will be able to nurture their technical abilities, and enhance the way they generate design concepts. Also, design education encourages students to find their own unique style. Student's transformation depends on teaching techniques based on the type of information given, teaching styles and the tutor potential, also the student ability and learning styles.

Graphic design courses generally include, but are not limited to, principles of design, drawing, computer artwork, website design, commercial graphics production, and printing techniques. The aim is to enable students to create stimulating, creative, beautiful and effective design solutions in response to wide ranging communication problems. Such courses should involve the depth and range of both creative and theoretical work that reflects the sophisticated nature of contemporary design practice now.

Design tutors from Amman and Jordan Universities stated that they educate students in different fields related to art and design, but this may not lead to a deep knowledge of any specialisation in graphic design, such as corporate identity design, poster design, web page design, packaging, design and digital media and advertisement design.

An assistant professor at the Applied Science University reported that the semester credit hours did not help to achieve this goal and that students had to put great effort into developing their skills in particular specialities. He said that would be impossible when the number of students in the class is over 20.

All the educators interviewed focused on the fact that most students enrolled in graphic design courses are not well equipped with the knowledge required in art and design. They said that providing specialisation is difficult as students may arrive with little knowledge of the course or about art and design. Many students arrive unprepared and unmotivated. This case may form a critical problem for design education in Jordan.

Educators from Yarmouk, Philadelphia and Applied Science Universities mentioned that there are differences in teaching methods between the different institutions and that this variation leads to differences in the skills learnt by students on the various programmes of study. Graphic design could be taught as a graphic art, or with a focus on design software skill, pre-press work, and ignoring other skills that based on conceptual thinking, design process and research. Some differences relate to the skills, education, characteristics of the tutors and the study plan in their department.

An assitant professor at Al-Zaytona University declared that institutions do not provide direct job placement services, but in some cases instructors may help their students build a resume and give advice to students on finding their first job.

A head of department said:

> ‘’Not all of our graduates get a job directly, 10 per cent of the graduates start their career earlier. Graphic design firms accept those who have a creative portfolio. We cannot ignore the other institution graduates, every year there are a “minimum” 400 graduates…A number of graduates work here in Jordan and others may get a chance to work in other Arab countries, it depends on their self confidence and portfolio.’’

An assistant professor highlighted the reasons behind the absence of collaboration between the academic institutions and the sign industry by saying:

> ‘’Design faculties and departments do not research and produce in collaboration with either the government or industry and do not involve the students in design research and developing applications. That is why students are not committed professionals, the gap between industry and the institutions is quite huge, in a way they do not see each other.’’

It is clear that, as the industry changes, the design academics may only see the industry as it was, as they may not have continuous contact with them. From the industry perspective, practitioners do not see, or influence the changes in academia. This situation affects the ability to promote students and grant them opportunities to experience real life practice.

Most graduates will work in advertising agencies, the sign industry, pre-press and printing presses, publishing sectors, multimedia and web page design sectors, and in art galleries.

7.7.4 Theme 4: Developing conceptual thinking

Participants confirmed that each course has a set of learning outcomes, delineating the skills students should develop. The tutors try to keep the students’ interests alive

through involvement in projects and visits. In this manner, the students are able to understand the way in which the business works, and understand and align themselves to the entry requirements of the profession. Aprofessor at Applied Science University affirmed that tutors should understand the capabilities of the student and foster that ability to develop or develop his/her literacy.

A Yarmouk University assistant professor explained that concepts are explored through a comprehensive range of media, such as offering a practical and visual introduction to graphic design, providing students with detailed coverage of design concepts, including colour, imagery, creative thinking, and visual-problem solving, overview of the field of graphic design and related career options, and orthographic views and perspective are also studied. In a studio-based course students will develop an understanding of gesture, movement, form, volume, and light by drawing from live models. Skills are provided by practical applications and observations, and courses offer continuing study in the concepts of design. The 'Introduction to the fundamentals of drawing' course equips students with a variety of basic skills such as learning fundamentals of shape and form and space.

An Assistant Professor at the Applied Science University stated that students should demonstrate competency in the elements that form the basis of two-dimensional art work such as line, shape, mass, texture, space, colour, and value. These skills will be used as a tool for analysing and designing spatial relationships, leading to a stronger sense of visualisation and communication of three-dimensional forms. However, an Assistant Professor at Amman University said that computer graphics courses are designed to help students achieve basic knowledge and skills in Adobe Photoshop, Illustrator and Indesign, as well as Macromedia flash. The

emphasis of the course is on photographic effects and techniques and animation. Through lectures and studio work students gain training on how to effectively implement graphic design elements with print production and website design.

An Assistant Professor at Al-Zaytona University explored the role of the course and stated that a graphic design course should concentrate on the production of package design, from concept to implementing action, exploring 3D forms and designing containers for a variety of products. These skills will be used as a tool for analysing and creating various design methods.

7.7.5 Theme 5: The world of work

The participants said that courses combine lectures with studio work to create a portfolio on which the students can build their design career. They are convinced that the students' career portfolio is the major focus and students' studio work and critiques are examined, existing projects are polished and new material is added. All graduation projects are required to meet professional standards, stressing the high quality of all work produced.

Three private university assistant professors explained that computer graphics modules prepare students for the field of work, and to learn commercial printing technique they learn issues related to practice, such as preparing the design for prepress and type of materials.

The University and Community College educators interviewed stated that students experience life as a graphic designer with an internship of up to 192 hours at a design studio, advertising agency, or in-house corporate design department in the Greater

Amman area. Also, qualified students can sign up for the graphic design company to create promotional print production, from the concept stage through to print. However, the tutors opined that this training period does not equip all the students with same training and skills as not all agencies or design companies consider the internship as a serious stage of education. On the other hand some students do not engage themselves in training seriously!

After placement, students are required to show their portfolio and write a report in which they can reflect on their own experience and the related knowledge they have gained. Not all institutions have a formal assessment for this. An Assistant Professor at the Applied Science University explored the field training outcomes as:

> ‘‘The field-training course is the most interactive, and aims to provide students with the skills needed to participate in the commercial field. For this study programme, students spend 192 credit hours within the commercial firms. The most important skills learnt here are the ability to work productively as a team, to communicate with clients and to prepare the design brief and design proposal forms.’’

7.7.6: Theme 6: Sign design education

The tutors initially agreed that they taught sign design, interpreting this as being the same as advertising design. The researcher clarified what he meant by sign design which concerned the design of both the content and structure of signs taking into account environmental and architectural factors. This implies more than just designing content that presents or promotes a service, a product, or a corporate identity. Following this description the tutors admitted that sign design did not feature as a separate course/teaching objective. They explained that they taught advertising design, where students learn about outdoor advertisement design, and design

advertisements for billboards or a corporate sign for a store or company. This means that students may deal with sign design in a similar way to which they design a poster.

An assistant Professor at Yarmouk University said:

> ‘‘As such, their design depends on the medium they are designing for, such as a billboard or banner, and this is what they focus on, but they do not consider other elements central to sign design, such as the type of materials used and environmental issues.’’

An assistant Professor at the Applied Science University commented

> ‘‘In this module (Graphic 2) students design a trade mark for a product, then they are asked to design a news paper ad, magazine ad, and then outdoor advertisement such as billboards or a shop sign. We discuss environment issues but we do not talk about regulation, material and other related issues.’’

And an Assistant Professor at Philadelphia University said:

> ‘‘We just ask them to design the subject of the sign, then they can apply this design to any billboard, sign or a shop fronts photo. We focus on how he is able to marry the word and image to attract an audience.’’

Educators were then asked whether they taught environmental issues, regulation, materials, sign technology, typography legibility, visual literacy and the fulfilment of design brief, which are all fundamental areas in the practice of sign design. Their answers here were varied, they stated that some modules may focus on the environment, design psychology, and outdoor advertising, but certainly there did not appear to be any commitment to the teaching of these issues. It was clear that sign design did not exist as a discipline on its own.

In Community Colleges, tutors said that students learn about sign design in modules related to the use of design software in graphic design. This statement shows that sign design is neither well defined or introduced, although it may feature in any computer graphic module as an assignment, for example, when students are introduced to Photoshop and Illustrator software. The tutors commented that they organised visits to firms where sign making and a wide range of materials were used.

The interviewees were asked which specific skills they felt that students needed to learn in order to become professional sign designers. They all stated that these skills were the same as those required for a career as a graphic designer, including conceptual thinking, communication skills, computer skills, artistic skill, general knowledge, creativity, visual experience and team work..

They added that an individual working professionally as a sign designer would also need more skill in using sign design software and materials, an understanding of the traditional methods used for making signs and have a good knowledge of computer-aided equipment.

One assistant professor insisted that her students should be equipped with communication skills and the ability to transform, (transferable skills) by which she meant that what the student learnt should be applicable to any task, they must not only be able to work in the marketplace, but must also be liberated, clear and inventive in their creative thinking. In contrast, another tutor considers that students should be equipped with the ability to create a concept, whilst also possessing good computer skills.

An Assistant Professor mentioned:

> ‘‘In their education, students are expected to know all the terms related to the graphic design industry and to be able to create, and then produce, the required concept.’’

Community College tutors stated that having computer skills were important, specifically being able to use Mac computers, in addition to productivity in the use of different design software. They also stated that Community College graduates are more skilled in computer usage than University graduates.

When asked whether sign designers needed different skills from other graphic design professions, the answers confirmed that graphic design students could take on the role of sign designer, as the design process is the same. After discussing sign design in more detail and its relationship to environmental graphic design they reconsidered their opinion stating that students would need to know more about the production process, material types and design requirements.

7.7.7 Limitations of course design in Jordan

Participants declared that graphic design teaching in Jordan does not include the opportunity to specialise in areas such as corporate identity, poster design, packaging, sign design, web page design or illustration. The length of the courses makes it difficult to introduce specialisms. Courses are based on the credit hours system, and the total credit hours are divided between 16 weeks: however, in reality only 12 weeks can truly be called a teaching/working period due to various factors, such as official religious and national holidays, University and faculty activities, and the impact of adverse weather conditions.

During the semester, 36 credit hours are divided between Sunday, Tuesday and Thursday and 24 credit hours are divided between Monday and Wednesday. Each theory hour is equal to two practical hours. These regulations are imposed by the Ministry of Higher Education. Some institutions have been able to design more credit hours for some modules.

Design institutions must closely monitor internships, ensuring that the curriculum provides students with the skills they need to work in the commercial field. This research has revealed that not all design firms taking on students for field training are aware of the aims and objectives of the University courses, often because

staff in these firms lacks the qualifications or capabilities to teach students the required skills. Some design firms use students for production activities only, and do not waste commercial time on training them. With little thought given to their training, these firms do not take the needs of students seriously, or provide students with the required portfolio and report, which the University will usually need in order to evaluate the student's progress.

Those design firms who are seriously interested in educating students cannot take a large number of trainees. The number of graphic design students requiring training may be calculated as follows: there are 12 Universities and 15 Community Colleges, each with a minimum of 40 qualified students, meaning that at least 1080 students need to be trained annually. With the absence of real co-operation between the design institutions and the design industry, not all students will receive the same experiences. Tutors found that not all students received equal standards of training, and that not all the students took the placement seriously.

7.8 Identifying the gaps

When asked about their students' ability to prepare a design brief and design proposal, the tutors confirmed that this had been taught in the modules. However, when practitioners were interviewed they stated that this needed to be learnt during practice. No samples of design briefs were offered by the tutors as evidence to back up their claims. It is a fact that only first class design agencies and firms care for such design briefs. The use of the design briefs in design institutions depends on the tutor and his experience. As mentioned in Chapter 6, if the client is not able to prepare a design brief, the designers have to prepare the documents. Where the designers do not meet

with clients, they receive a design brief prepared by the art director or the marketing department in the agencies.

Although sign design was not taught as a specific module a quarter of those interviewed argued that they taught environmental issues and the relationship between signage and architecture, augmented with regular visits to the sign industry. However, such visits are not moderated so the experiences of the students may vary, and they may not be provided with opportunities to engage in the planning and functional problems of sign design.

Issues relating to signage regulation, materials, technological and traditional methods of sign making or the history of sign history are not covered in current courses. Therefore it is clear that with the absence of a specialised course or module in sign design, there will be little guarantee of it being taught in graphic design courses, especially where the tutors have little knowledge or experience in this domain, and are not able to offer students appropriate placements in a rapidly changing industry.

7.8.1 The skills needed by a sign designer

In addition to the competencies in graphic design, An Assistant Professor at Yarmouk University said that designers may need to be equipped to deal with the changes in sign industry technology; not only in relation to the design principles, layout, and colour but also in computer skills related to sign making, typography, regulations, environmental graphic design principles, sign design software, computer aided equipment and high technology or traditional methods.

Only one private University tutor provided the researcher with some of his students sample work to show how students design a sign. Others said that they did

not have samples and more offered to provide these as soon as was practicable but unfortunately these did not appear. The only samples received were produced in a module called Graphic 2 in which students select a trademark to redesign and then design its labels or packaging, a brochure or a leaflet, billboard and commercial sign for a shop front. This work illustrated how students design the content of the sign and then apply this to signs that are shown out of context (in this case not in the real environment of Amman). Figure 7.1 exemplifies that students undertaking these assignments may not have researched the location where the sign will be located, its size, materials, restrictions or how it will be perceived.

Figure 7.1. Student sample work in Graphic 2

Figure 7.2 shows that the student did not adapt his design to the selected media. The billboard and the shop front sign design seem to show that the student was just pasting the design on the sign image, again without any regard for Amman's environment.

Figure 7.2. Student sample work in Graphic 2

Figure 7.3. Student sample work in Graphic 2

Figure 7.3 again illustrates that students had little awareness of the materials used in the sign industry. The designs are based on materials that can easily be printed.

Students need to be introduced to different materials to help them understand the properties of different materials and their appropriateness for different types of signage.

Understanding the role of typography is essential in designing information so that users can read the information easily. The distance at which text can be read, or its legibility, is determined by: the letter height; the font type; the use of upper/lower case and the line spacing. It was clear that students did not research the site where the sign will be located and they did not know the actual size of the sign to apply the right design elements to it.

Assistant Professors at Yarmouk, Applied Science and Philadelphia Universities said that there is a sufficient content to design a module for sign design which will illustrate the method of inquiry and the guiding principles to teach valuable skills amongst module goals. Already students are designing the content of the signs in modules that teach typography, brand design and outdoor advertisement. The possibility is there to create a special module for sign design. Designing a specialised module in sign design will help to achieve the aim of filling the knowledge gap and equipping students with the skills needed to thrive in the sign design industry. It is expected that with the growth of the design industry the need for sign design professionals in this field will increase exponentially.

They added that the developments in the role of commercial signage in Amman, the growth in the size of the sign industry, and expansion of commercial districts will require the presence of well equipped and trained designers. It is the responsibility of the design academic institutions to provide these.

7.9. Conclusions: The Jordanian experience

Investigating the factors that affect graphic design teaching process enable a graphic design course structure to be created in a way that provides balanced advantages for all stakeholders, including the client, industry and country.

Based on the tutor interviews, graphic design course structure should cover the following areas:

- Design principles and elements essential to design
- Cognitive studies and skills: aesthetics, design psychology, design theories and methodologies, colours theory, history of art and design
- Accurate specialisations: Typography, Advertising design, Packaging, Digital design, Computer graphics skills
- Technical skills: Sign making, commercial printing process techniques, digital photography, and prepress techniques
- Practice skills: Drawing and painting.

A major problem affecting the teaching of graphic design is students who apply for courses have little knowledge of the subject and are ill-prepared and unmotivated. Most students accepted onto Art and Design courses have had no previous training or assessment of their potential.

Sign Design is not taught currently taught as a specialisation. The tutors felt that sign design requires additional competencies such as computer skills related to sign making, typography, regulations, environmental graphic design principles, sign design software, computer aided equipment and high technology and visual literacy.

7.10 Graphic design in the UK Higher Education Institutions

Following the study of the Higher Education Institutions in Jordan a comparative study was made of graphic design courses in UK Higher Education Institutions (HEIs). The comparison of courses in the UK and Jordan was used to indicate the strengths of current offerings and highlight areas where additional competencies could be taught.

In the nineteenth century, a movement began in the UK to separate graphic design from fine art. The division created between fine art and applied art boosted this evolution, and pioneer designers successfully published major graphic design products through the Arts movement. William Morris contributed significantly to commercialising graphic design and pioneered the separation of commercial design and fine arts (Roberts, 2005; Hollis, 2001). History shows that graphic designers saw themselves as professionally able to deal with a wide range of projects, such as corporate identity, publishing, exhibition, signing, television and architectural graphics. The pioneers studied in British art schools and then began to work in group practice or freelance, supplementing this with part-time teaching.

Following the 1836 Report of the Parliamentary Select Committee on Arts and Manufacturers, which sought to improve the economic competitiveness of British industry by raising the profile of art and design education, a number of art and design schools were set up under government auspices. The Royal College of Art was established in 1837, and the Brighton School of Art in 1859. Examples such as these show the strength and heritage of design education in the UK, now at undergraduate and postgraduate level. These institutions have played a major role in supporting other countries with well recognised professionals and academics serving their communities. Therefore it was hoped that interviewing staff on graphic design courses which had emerged out of this tradition would reveal greater insights into the requirements of graphic and sign design courses, and how these should be taught.

7.10.1 Aim

The overall aims of the interviews with faculty staff in the UK were the same as those outlined in the previous study (detailed in Section 7.4)

7.10.2 Methodology

Six interviews took place with the tutors responsible for teaching Graphic Design at Birmingham Institute of Art and Design, Goldsmiths College London, Loughborough School of the Art, Coventry School of Art and Design, Milton Keynes College, and Henley College, Coventry.

7.10.3 Response rates:

Seventeen design academics were approached, 6 responded positively. Of the ten who did not wish to take part, five said this was because they lacked knowledge of sign design. In addition, two of the interviewees admitted that they knew little about sign design. This means that almost half of the academics approached admitted that they lacked significant knowledge of sign design. This may be taken as indicating that the graduates of these courses may not have received specialised sign design teaching because there is a lack of knowledge about sign design among their academic teachers.

7.10.4 Interview Analysis:

The interview was analysed in the same way as the previous study and similar themes were extracted (see Section 7.7.1)

7.10.4.1 Theme 1: Influences on the development of teaching a program

Because of its practice base, Art and Design has tended to view itself as different to other academic disciplines (Bird 2000). Historically this difference has been emphasized by its educational activity being conducted in independent Schools of Art and Design. Design education is effected by a number of factors such as the tutor's

experience and knowledge, economics, technology, social, and policy-makers influence the process of teaching art and design in the schools, departments and colleges.

The students are expected to manage their time effectively; this requires structuring the program of work with milestones and formative exercises, and managing support from industry. A Goldsmith College lecturer in design highlighted the importance of engaging the graduate design program with the new changes in the field and its required skills.

> ‘‘When we set up our graduate design program, we set out from a principle which 14 years ago was quite radical, to actually take away all the disciplines to look at a new way to approach design education at the higher level. Instead of having a discipline led program, which was relying very much more on skills and the way that skills were becoming more computational and the software that we would use every often so, we needed to start a design course by looking at what were the key skills needed to be a designer, so we looked at drawing, painting, and making but the key skill that seemed to be emerging all the times was ways of thinking, ways to have an idea through creating an idea, to be inventive and have multiple ideas. Research is essential in fulfilling any given design brief.’’

He added the Quality Assurance argues that Subject Benchmark statements of 2000 provide a means for the academic community to describe the nature and characteristics of programmes in a specific subject. They also represent general expectations about the standards for the award of qualifications at a given level and articulate the attributes and capabilities that those possessing such qualifications should be able to demonstrate. It was clear from the interviews that the main vision of undergraduate graphic design course is based on the UK benchmark. Because they lay out threshold standard or Art and Design and must be adhered to when designing a curriculum.

Associate Head of Department, Design & Visual Arts at Coventry University said that the main vision is to prepare graphic designers in a wide variety of skills for industry, but especially to nurture true creative/conceptual skills, underpinned by sound craft and technology experience.

The learning acquired is evidenced in a body of work which demonstrates the graduate's ability to (Benchmark Statement 2008):

- generate ideas, concepts, proposals, solutions or arguments independently
- and/or collaboratively in response to set briefs and/or as self initiated activity
- employ both convergent and divergent thinking in the processes of observation, investigation, speculative enquiry, visualisation and/or making
- select, test and make appropriate use of materials, processes and environments
- develop ideas through to outcomes, for example images, artefacts, environments, products, systems and processes, or texts
- manage and make appropriate use of the interaction between intention,
- process, outcome, context, and the methods of dissemination be resourceful and entrepreneurial.

An Assistant Professor at Loughborough University said that the specific coursework and faculty shape the approach for incorporating general education with professional design curricula, these share best practices aiming to increase the chance that students will develop cross disciplinary understanding.

Clearly benchmark statements do not exist in Jordan, and mostly what are available are guidelines from the accreditation board.

From the beginning there has been an emphasis on practice. Practice is the link between the historical training of the artisan and the current education of the artist,

designer and craftsperson. Affiliation requirements for any programme taught in Art and Design institutions are restricted by professional bodies too.

A Goldsmith College lecturer stated that the European Union has decided that the UK modularised system of educational units (courses or credits), transferable across the whole system, is essential to its vision of the EU as a global leader in education. The total length of the degree in Art and Design program is currently 3 years.

A lecturer at Coventry School of Art and Design said that most of art and design subjects thrive on change and evolution and graphic design is part of this. The profession of graphic design, which until the 1990s appeared to be small, craft based, and highly cultural, has in the 21st century expanded into a popular profession in a permanent state of change, influenced by technological advancements

Coventry Keynes College tutor emphasized on this issue:

> ‘‘There are different activities that graphic designers undertake and that stand on one side of the pendulum, we might say information design, on the other side we have graphic design. There are both very objective and very subjective approaches to the subject, and that seems to be evident in practice. What is interesting about teaching the subject in an art and design context is that there tends to be almost by default much more subjective approaches to delivering the subject and therefore students are encouraged to be expressive in particular, in the UK, and that is largely because of the subject having being taught out of an art and design school.’’

A lecturer at Goldsmith College added that graphic design teaching became multicultural, social and gendered:

> ‘‘In our institution, it is very international, we are very diverse so multicultural, multi religions and multi gendered. So because we have this nature in our community, we find this very important aspect of our everyday life and therefore have to be embedded in our studies, our program is focused on much more and ill quite this. To focus on the subject is to be blinkered to people’s needs.’’

All UK courses normally have to make a business case before they can be developed which shows where they are novel, the number of students they will attract and the

proposed exit profile. Understanding the influences on the development of teaching graphic design course will widen the scope of teaching and training while designing for a program.

7.10.4.2 Theme 2: Shaping students' attitudes

Participants explained different approaches to teaching and learning that emphasized releasing the creative potential of the student. This shapes all aspects of education - the learning environment, teaching approaches and methods, attitudes to assessment and the relationship between the teacher and learner.

Tutors stressed on the need for team work, emphasising the impact of the collaboration in a social contexts upon the students practice, and the importance of social contexts in relationship to graphic design thinking. Students must be equipped with many kinds of abilities that will help them to co-operate in teamwork. They are trained to cope with various kinds of human beings in their setting -culture, religion, race, and ethnic.

A lecturer at Goldsmith College stated:

> ‘‘Students in a global economy are required to think about cultures and communication in a new creative way. They should not only be thoughtful, but also sensitive and strategic in their thinking around cross-cultural design.’’

A tutor in Graphic Communication at Birmingham City University said:

> ‘‘It depends on how we introduce the idea of social and cultural issues to students, and what part of the world and what kind of context. In my own teaching practice, I try to help students understand the social, cultural, commercial and industrial context for their work as well as the environmental and political context for their work so that they have a choice and at least to identify with certain parts of that context over the other.’’

Helping students to learn to detect, understand and correct misconceptions in their own and fellow students work is an important part of the learning experience as is training through reflection on their own learning experiences and self assessment.

A lecturer at Goldsmith College said:

> ‘‘From my experience of being in higher education for the last seven or eight years, I have generally found that graphic design benefits from what I would call a diagnostic approach to teaching the subject rather than a dogmatic approach . What I mean is that the subject area is very broad.’’

A professor at Loughborough University stated that they focus on their students as individuals rather as a group of people who fit into a certain discipline, they join the programme, to design practice that might be made up of a multiple practices. There is a big debate around that whether it is called interdisciplinary, multidisciplinary or as a trans disciplinary which is to move beyond the discipline.

Tutors said that they have asserted transformative potentials, with considerable passion; giving students the right circumstances to explore their personality and their most exciting creativity. A tutor in Milton Keynes College supported self-confidence:

> ‘‘We want to encourage students to find their own voice and their own niche within that so in one way we look at it, it will take quite a broad sweep and show students across whole range of things that might be interesting for them, then encourage them to follow up on that themselves.’’

The tutor’s role is considered to be the main spine in translating the curriculum into skills, motivation, experience, self-confidence, and understanding the process of solving a problem creatively. Tutors aim to equip students with the most needed competencies to master conceptual thinking and creativity.

7.10.4.3 Theme 3: Developing Conceptual Thinking

In their opinion, the participants see that students should be able to solve a problem and identify patterns or relations between situations that are not clearly connected, and to acknowledge fundamental issues in multifaceted situations by using creative, conceptual or inductive reasoning. They elaborated that the Graphic Design curriculum should be a mix of design principles, conceptual thinking, and interdisciplinary studio practice to spark innovation. In the UK, Graphic Design programmes consist of four interrelated areas: Studio Practice, Contextual Studies, Methods & Processes and Technical Studies.

With concern over the quality of teaching and learning across all subjects, HEIs are seeing a shift from instruction in a transmission curriculum to a transactional curriculum. In a traditional curriculum, a teacher transmits information to students who passively listen and acquire facts. In a transactional curriculum, students are actively involved in their learning to reach new understandings.

Participants recommended that a constructivist approach be used to create learners who are independent, enquiring thinkers who question, investigate, and reason. A constructivist approach frees teachers to make decisions that will enhance and enrich students' development in these areas.

This change is exemplified in a comment from a Community College tutor:

> ‘‘Our teaching has changed from having students in a studio and lectures on studio practice, encouraging students to practice the new studio culture. Now, students attend seminar groups that look at the notion of research and evaluation, they reflect on what they have done. This will give them a critical appraisal, perhaps at what stage their work is, so the notion of studio culture has changed considerably within graphic design.’’

Transferable skills developed through studying graphic design include: communication; creativity; problem solving; project management; information

technology and team skills. The tutors affirmed that the students are going into the world and need to be able to respond to anything that they might come across, They explained to them what the transferable skills are within their design subject that are in every occupation to be communicators, to be problem solvers, to be thinkers and possibly managers.

The tutors highlighted that design thinking enables students to develop values, attitudes, sensorial skills and critical thinking. The intention is to offer avenues that are creative, and innovative. A Coventry University lecturer said: 'Students who think critically consistently attempt to deal with their tasks rationally, reasonably, and empathically'.

Tutors focused on the importance of involving students in using research, analysis and critical thinking. They try to find ways of introducing students to critical thinking in graphic design. The kinds of issues that students deal with are from practice, educational perspective, research, and critical theory. They teach students to analyse and think objectively.

All participants confirmed the need to enable students to practice the intellectual tools that critical thinking offers An associate head of Design and Visual Arts at Coventry University said: 'Conceptual projects, where students are able to set a brief, set their own project, research down an avenue that interest them, to pull things in from different influences till it is produced'.

University tutors urged students to work diligently to develop the intellectual virtues of intellectual integrity, humility, civility, empathy, and an intellectual sense

of justice and confidence in reason. They focused on the importance of giving the students the opportunity to assess their own learning out of experience against the learning outcomes, discuss that reflection with tutors, and then both comment on what had been achieved by the student.

The tutors play an active role in creating an environment that helps students integrate and apply different ideas and approaches to solve a problem; in developing students' ability in looking for common factors, researching and modifying other approaches and techniques to meet their solution; teaching them how to reflect their experience and present their solutions.

7.10.4.4 Theme 4: Teaching graphic design materials and technology

The tutors believed that the graphic design field continues to merge with digital technology, graphic design students need to master increasingly sophisticated software whilst also developing the interest and ability to increase those skills after they graduate. Universities and colleges should prepare their students for life after study, the world of work by encouraging their centred learning and personal development. A Goldsmith College lecturer stated:

> ''There is an assumption there that there are set materials and set techniques that we know exist within the subject, but because of the breadth of the subject, it's very difficult to pin down what that might be, so if we are having this conversation thirty years ago, we would primarily be talking about print and print related outcomes and therefore we would be talking about printing technology.''

The needs of an increasingly technological oriented design industry are reflected in a shift from printing, typesetting, and typography to animation, web design, and digital three-dimensional design.

Multimedia design takes graphic design from the real to the virtual world in the design of websites, films and videos etc., as mentioned by the Goldsmith College lectur

> ‘‘Graphic design is a multimedia activity. It works across different ranges of media and in actual fact it always has done, I question people who think that it is just a print related subject, because it has never been, because when the term gained in popularity, print happened to be the majority medium. We know from people who work in sign design, television, and multimedia across different medias, how to prepare students for the technical and material outcomes of the subject, I think is a very difficult thing to do. What I think we can do though is insist on material outcomes for their work and encourage students to explore media as part of their own research.’’

The challenge for the tutors is to take students who have been used to receiving information and transform them into active learners, who are able to learn independently from the world around them, and apply this to their practice.

The students may learn in structured situations such as lectures, courses or learning packages; in informal situations, such as browsing through books or on the Net; and through casual conversations with peers. To facilitate this, tutors draw on a body of knowledge and experience from design pedagogy to Gestalt and cognitive psychology, studies of student learning, and constructivism. These theories become less positivistic, less concerned with control and prediction and more concerned with social values (Brown, 2004). Students no longer just gain mastery over a set of tools and techniques, they learn the various options available, and how to think, see and feel in that medium and use the tools to communicate it.

Participants highlighted the importance of multidisciplinary model of design in art and design education where students gain more skills and experience in developing their projects. They confirmed that the students will gain the ability to think and in their final project they will bring all their skills from everything including

their work experience to develop their project, using skills, graphics, products, communication and materials. They have more of a multidisciplinary model of design.

Workshops, demonstrations and practical learning environments form the real world experience that the students practise to be equipped with the proper training. A Coventry University lecturer emphasised this fact in saying:

> ‘‘We have units specifically designed to teach materials, techniques and process, so that within units they will have workshops, demonstrations, and a practical learning environment under the guidance of the tutor, student will learn certain practices. It could be computer program, or packaging in which they will know about materials, ways of building their projects around lots of materials.’’

7.10.4.5 Theme 5: Field Practice

In terms of preparing students for work, tutors find the balance between teaching and training that will equip students with needed skills to enter the field as professionals, focusing on the students as individuals with different potentials.

All tutors affirmed that the real world is their target, and they have a very strong entrepreneurial learning vision. Tutors encourage their students to look quite early on the course at where they will be when they leave, and they will have various structures within their courses to support students in the practicality of the world of work. It is about individuality and personal development to produce thinking, creative and employable designers.

A tutor explained the importance of teaching design history, stressing that its purpose is to strengthen studio education and professional practice. They also explained how they try to prepare students for the world of work, which requires a

higher level of professionalisation. For practising graphic designers this will mean project based work, in temporary goal oriented, multidisciplinary teams.

A Goldsmith College lecturer focused on the change of the course length and its impact on the education process mostly on field training.

> ‘‘Our course has changed, it was originally a four years course, where students worked out for a whole year in industry. Now, we had to change our module and our curriculum, we had to condense parts of it but the bit we really wanted to maintain was the work experience that students got, while they were students and rather than say to them do it in your own time within our second year, the third semester they go out and work in some professional spaces where the people there are undertaking design.’’

The role of HEIs is to equip students with the necessary models and processes with which they can solve increasingly complex design problems. The second year is considered to be the appropriate time for the student to consider their specialization so they will be able to think about and look for field training. An Assistant professor at Loughborough University pointed out saying:

> ‘‘Now to prepare them for the world of work at the beginning of their second year they do a course which is all about who do they want to work for? What type of design do you do? So the students have to search for where are the top designers they would like to work for, do they take on students, how would you introduce yourself to those companies.’’

Students should be given every opportunity to apply their knowledge, skills and understanding in real-life situations within and beyond the classroom. With this concern a University tutor concluded:

> ‘‘There is preparing in terms of knowledge of the skills; knowledge of computer software; knowledge of printing methods. The soft skills that can not be taught so much as nurtured with communication skills; being able to empathize not with just the audience but the rest of the people in the group. Teach them how to present their work, themselves, and their body language. Teach them how to work in a deadline.’’

A Community College tutor explored the importance of the students' role in recognising and applying their skills into the field to enable them to have a choice and make alternatives.

> ''I think that it is important to enable students to recognise, develop and apply their skills for enterprise and employability. Relate their own abilities, attributes and achievements to career intentions and make informed choices based on an informed understanding of the alternatives.''

A lecturer in Goldsmith college indicated that subjective and objective mode of communication are introduced for the students to enable them perceive their own character and decide their future work. Students must learn to voice their opinions and not be afraid to share their ideas. This makes the students more confident in their abilities.

This highlights the fact that HEIs emphasise rounded liberal art and design education, as opposed to the technical skills required for a particular profession. Moreover, the best way of preparing students for future employment was to teach them to think creatively, strategically, independently and entrepreneurially. In this approach the traditional boundaries between design disciplines dissolve, and technical skills evolve continuously.

7.10.4.6 Theme 6: Sign Design Education

The academic interviewees talked about how they teach graphic design and how they perceive the philosophy of teaching such discipline. They explained that they taught sign design as part of other modules such as typography and information design confirming that again that sign design does not exist as a course or a module. Students learn sign design as part of a project in these modules or a design brief brought by a student.

A lecturer in Coventry University mentioned that sign design is not a module, he said

> ‘‘We do not have a module labelled sign design, we will ask students to consider signage as part of their projects, we may offer a particular project that looks at a wayfinding activity and that might be part of a suite of projects that we may offer.’’

All participants said that sign design might be part of a particular lecture or seminar group which shows that it is not a regular topic in the education. It depends on the tutor.

A number of design institutions involve their students in real live projects. A Community College tutor mentioned that they train their students on sign design through a module called Information Graphics. In this module sign design is not the main topic but it is represented in a unit that covers some sign design issues. The information and the training of sign design may be introduced to a small number of students, those who have the chance to participate in a workshop, seminar or a project introduced by the lecturer in Goldsmith College.

> ‘‘I think, with something so specific it is possible to have an individual project, workshop or a seminar that might bring people together that are doing sign design. They show what they do and then they create a debate around it.’’

A Community College tutor indicated that he hasn't heard about sign design as a discipline in any design institution in the UK.

> ‘‘I do not often see that taught in places, certainly it is not something we do here or seem to have done in the recent past. It is something that I would hope to be doing more of in the future.’’

An Assistant professor at Loughborough explained how they introduce sign design to their students through a project that mostly dealt with wayfinding. He also confirmed the absence of sign design as a discipline on its own.

Therefore students may have the option in projects offered to them to include sign design or outdoor advertising in their response to the brief. In such cases they will receive guidance on how to do this.

The tutors highlighted important skills that a sign designer should be equipped with; applying understanding to a different knowledge base, understanding techniques and materials currently used in signage design, elements of planning, systematic thinking, urban design and architecture, research typography, sign regulations, visual thinking. Moreover, tutors mentioned some skills that a graphic designer would need to design signs, such as typography and its legibility, visual thinking, understanding environmental factors, and elements of planning.

However, the tutors did not assume that all sign design skills were an extension of graphic design. Sign design has environmental, material and regulatory issues which need to be considered and requires a multidisciplinary approach. These skills need to be discussed and taught.

7.11 Conclusions: The UK experience

All academics confirmed the levels to which teaching and learning adhered to the UK benchmark (See section 7.10.4.1). However, sign design is not taught specifically in HEIs, but may form part of typography, information design and in branding modules in which students are free to choose how they respond to a particular brief. There appears to be scope and interest for a particular project that looks at signage system activity as part of a suite of project options, supported by lectures and seminars. It was recognized that sign design was a specialized area which may need to be supported by information not found in the standard curriculum. Tutors thought that a sign design

module offered at postgraduate level was more appropriate than an undergraduate course.

The competencies to be covered in a sign design course from the perspective of UK academics are: applying understanding to techniques and materials, typography and its legitimacy urban design and architecture, research, visual thinking, sign regulations, elements of planning, Cognitive studies and skills, environmental factors, sign making and urban design and architecture.

In the UK, students learn the generic graphic design skills and designers' ways of thinking that enables them to apply their knowledge and skills to a diverse range of projects. For the sake of the development of sign design profession it may be argued that sign design is a special instance of graphic design, requiring additional knowledge and understanding that may not be provided in current courses.

7.12 A comparison between UK and Jordan design institutions

The case study was based on the hypothesis that there would be significant differences between the teaching methods and content of graphic design programs in the UK and Jordan, and that the Jordanian program would benefit from a greater understanding of educational practice in the UK.

Studying the elements of Figure 7.4 indicates that certain factors affect the teaching and learning process: the length of the course; the tutors, the curriculum design; the required end product or learning outcomes and cultural factors have been omitted. A clear difference is that Jordanian students do not apply research and analysis on their work.

Tutors claim that the number of students in the class and the short length of the course are the reasons behind the absence of research, but on the other hand two tutors have mentioned that they do apply research for the graduation project in the fourth year of students in design studio practice.

Mostly, the tutors in Jordan do not practice action learning, reflective learning or critical thinking methods. Most assignments are assessed summatively, to evaluate the student skills and competencies, with little acknowledgement of the way in which the project was planned and executed.

Tutors in the UK emphasised that the graduates acquire the professional skills, attitudes, knowledge, and judgement necessary for employment as designers These include :

- Demonstration of effective and creative problem solving,
- ability to communicate effectively in a professional context,
- ability to understand and demonstrate appropriate approach on ethical behaviours,
- ability to work in a team and under pressure tackle their project successfully.
- ability to learn industry related skills and techniques in production.
- Build up individual graphic design portfolio.

The aims and objectives of the Jordanian courses are similar; however, here most of tutors have expressed their concern about the extent to which learning outcomes were achieved. Issues of concern included large class sizes for studio practice, the difficulty in applying teaching methods to large cohorts and when the variability of students is high, the high number of students which exhibit a lack of interest in learning. A number of students join the course because of the low entry requirements, without any real understanding or interest in the discipline, Others think that graphic design is a design software skill.

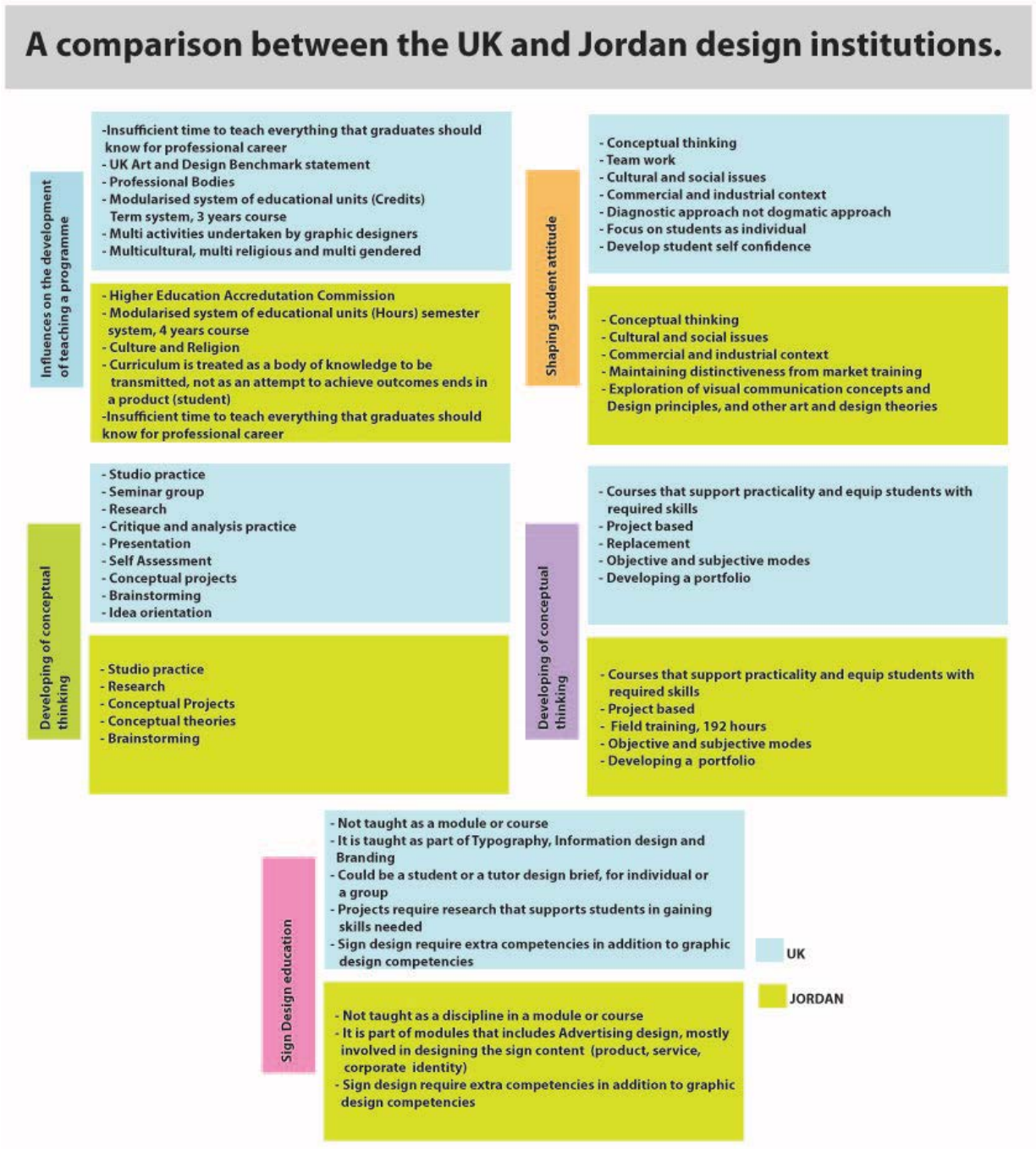

Figure 7.4, a comparison between the UK and Jordan design institutions.

Such factors were not mentioned by the UK design tutors when they talked about their experience. The manner in which the curriculum is divided up in Jordan

does not provide sufficient time for teaching students although they need to know for a professional career.

In Jordan, the interviewees mentioned that a number of tutors who teach graphic design are not specialised in graphic design and have not practiced it in the field. This problem may reflect itself when teaching sign design in a module like Graphic 2 or outdoor advertising. Teaching sign or graphic design requires knowledge about their principles and practice.

Unfortunately not all the tutors apply a reflective approach to allow students to recognise and assess learning. Jordanian tutors claimed they were not able to do this because of the length of the course and the number of students in the class. The UK has a longer tradition of supporting this than Jordan. De Fareitas (2002) stated that students should recognise reflective practice as a result of a strategy rather than a response to work.

It was clear that tutors from both countries focused on the development of competencies that would foster creativity, inductive reasoning, and intuitive processes that lead to potential solutions or viable alternatives that may not be obviously related or easily identified . Students should be trained to think 'outside the box', towards achieving creativity. This supports De Bono (1967) perspective in solving design problems through an indirect and creative approach which was highlighted in Chapter 2 .

Both groups of interviewees mentioned that there were many approaches towards preparing students for employment - through modules related to practice and

industry, projects, internship opportunities, focusing on objective and subjective modules and assessing the development of the student's portfolio.

A clear outcome of the interviews in both countries was that sign design is not taught as a special module or discipline. It may be alluded to, as in Jordan in the Advertisement Design, module called Graphic 2 which teaches trademarks, packaging and advertisement or Computer Graphics modules. In the UK it is taught as part of Typography, Information Design and Branding. This shows clearly that sign design is a matter of a tutor's interest or a student's design brief or project, and that there is no real focus on the subject as part of graphic design curricula.

Most tutors do not discuss issues related to signage material or the surrounding environment and typography. No focus is given to the area the design is situated in or how it may integrated with the surrounding areas to create a sense of space. Students learn through doing and applying the knowledge through a series of unconnected assignments that lead to portfolio pieces.

In the UK the students' awareness of sign design comes first from the tutors experience of this. Those tutors introduce projects that involve students in searching, analysing and proposing designs that solve the problem. Such projects will equip students with new knowledge about the sign design process. This is mostly introduced to students individually or in a group but it is not always common.

The proposed competencies to be covered in a sign design course from the perspective of Jordanian and UK academics is shown in Figure 7.5.

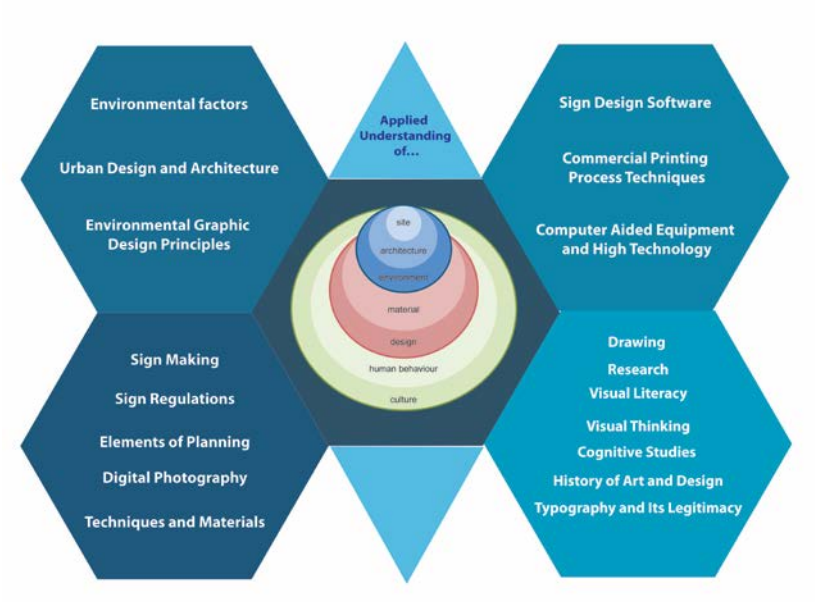

Figure 7.5. Competencies derived from the perspective of the academics in Jordan and the UK.

Although sign design competencies were new topic to many of those interviewed, they were able to identify some necessary competencies over and beyond those currently taught as part of the graphic design curriculum. These related to typography, materials, manufacturing and installation. Calori (2007) and Gibson (2009) recognised the need for understanding about scale, planning, history, architectural environment and regulations

Sign design is a relatively new discipline and, as such, formal education in it is lacking. A starting point for its teaching should be the development of a set of competencies based on the knowledge of academics in related areas. However, the literature review (mainly sections 2.8.1, 2.9 and 2.11, which discussed the idea of the competencies a sign designer needs to know about or skills a graphic designer in this field should have), the interviews with lecturers and sign designers, the observations in Amman, and my own experience as a practitioner and lecturer has led to the

proposal of the following competences (Table 7.4). Sign design requires an applied understanding of…

1	…the history of art.
2	…the history of graphic design.
3	…the history of signage.
4	…the relevance of sign regulations.
5	…colour theory.
6	…the concepts of visual literacy.
7	…Gestalt psychology.
8	…the properties of materials.
9	…the economics of sign design.
10	…the role of printing machines in the sign industry.
11	…how the work will be viewed by sign users.
12	…the clients' stated and unstated needs.
13	…how to fulfil a design brief.
14	…visual flair and creativity.
15	…the principles of environmental graphic design.
16	…the use of typography and its judicial application.
17	… understanding of and ability to utilize tools and technology
18	…photographic methods.
19	… drawing.
20	…graphic design communication trends
21	….aesthetic guidelines for architectural graphics
22	… sign design software (both2D and 3D).
23	… the process of planning and designing signage system
24	…recognize physical, cognitive, cultural and social human factors that shape design decisions
25	…screen printing.
26	… technical communication skills.

27	… basic marketing.
28	… basic public relations.
29	…ethics in practice
30	… different file formats.
31	… research skills.

Table 7.4. Skills missing as an outcome of the literature review, Jordan and UK academic and practitioners interviews and the case studies.

The proposed competencies are mostly related to the model of the knowledge of application which was discussed in chapter1 (Figure 1.3). These proposed competencies form just a starting point for the discussion. The next chapter will describe the derivation and validation of a set of competencies from which a sign design course may be developed. Once such competencies are agreed on, a module or short course can be designed and integrated into current courses.

Chapter Eight: Identification of competencies for sign designers

8.1 Chapter Outline

This chapter describes the derivation of a set of competencies from which a sign design course may be developed. It is intended that such a course could form an element or module of an undergraduate course in graphic design.

8.2 Introduction

The conclusions drawn from the previous research are that if sign design is to be improved in Jordan, then sign designers need to be equipped with a wide range of skills to enable them to deal with the clients' needs, latest materials and technology, new rules and regulations and environmental/architectural factors. It is believed that no research has been conducted which looks at the competencies needed by sign designers.

Kelly (2003) focused on the process of teaching and learning design and the role of teachers in focusing on factors that furthered learning rather than those intrinsically of interest. In teaching design in general, it is believed that 'the focus should be on the factors that influence learning rather than on what is presumed to be an interesting problem' (Kelly, ibid). Students should be able to define and present problems in a manner that will encourage their development. Curriculum designers should provide teaching and training which develops the requisite skills and competencies students need in order to accomplish successful solutions that are fit for purpose. Therefore it is wise to ensure that the curriculum uses systematic teaching

methods, such as case studies, discussions, active learning and cooperative learning proven to be successful in promoting students' learning (Smith, 2000).

Competencies form the fundamental characteristics, knowledge, and skills of an individual that can be shown to predict performance on a task (Spencer and Spencer, 1993). Graphic design graduate students who might practice sign design, possess conceptual abilities, technological and managerial skills. In addition to this they use their imagination combined with practical problem solving skills and their knowledge of materials to design manufactured signs that are 'fit for purpose'. Sign designers take into account function and form, and the connection between the sign, the user and the surrounding environment . They may also consider the cultural and social significance of the objects they design and the psychology of the end users. Culture context explores growing theories, new concepts and historical ideas that add to design in contemporary culture.

The significant increase of contemporary sign design crosses creative, cultural, social and political boundaries. The cultural context looks at how design influences, and is influenced by, new technologies, shifting geo-politics and global culture. As visual communication professionals, sign designers have to combine their creativity and aesthetic awareness with technical-production knowledge, a sound historical and cultural understanding, sensitivity to social dynamics and the contexts in which they act. They need to be able to analyse and synthesize a multitude of factors (Cheow, 2005; Inkun and Kaivo-oja, 2009).

In order to help graphic designers develop specialised skills and knowledge in sign design, as opposed to applying only generalised graphic design techniques to

signage, an additional set of competencies is proposed, based on the studies outlined in Chapters 5, 6, and 7, my own experiences and an inspection of current curricula.

In order to develop a set of competencies in sign design an expert panel was constituted to identify and validate competencies. Previous studies (Yu Wang, 2006) and (Dharavath, 2003) have identified competencies for graphic designers. However, these did not relate to the practice of sign design.

8.3 Aim and Objectives

The aim of this study was to obtain consensus and validation from a panel of experts on a set of competencies for sign design. The objectives were:

- To understand the competencies a learner requires in order to execute effective sign design
- To understand which competencies are essential to a comprehensive sign design curriculum

8.4 Method

The Delphi technique was used to develop a reasonable level of consensus from participants on an expert panel (Rowe and Wright, 1999; Dunham, 1998) in order to achieve the above aims and objectives.

This method is generally used for identification of competencies, new product demand, technological forecasting of new technology, and effects of scientific advances, changes in society, and changes in competitive environments. It has been used in diverse fields to generate forecasts in technology, education, and other fields (Gunaydin, 2005).Developing a consensus involves seeking expert opinions from

more than one person. Each is an expert in his own discipline, and it is through the synthesis of these opinions that a final forecast is obtained. A Delphi method is used to reduce the problems of confrontation in the group, so the responses and respondents remain anonymous. The classical technique proceeds in well-defined sequence (Hsu.2007).

An overview of the method is shown in Figure 8.1

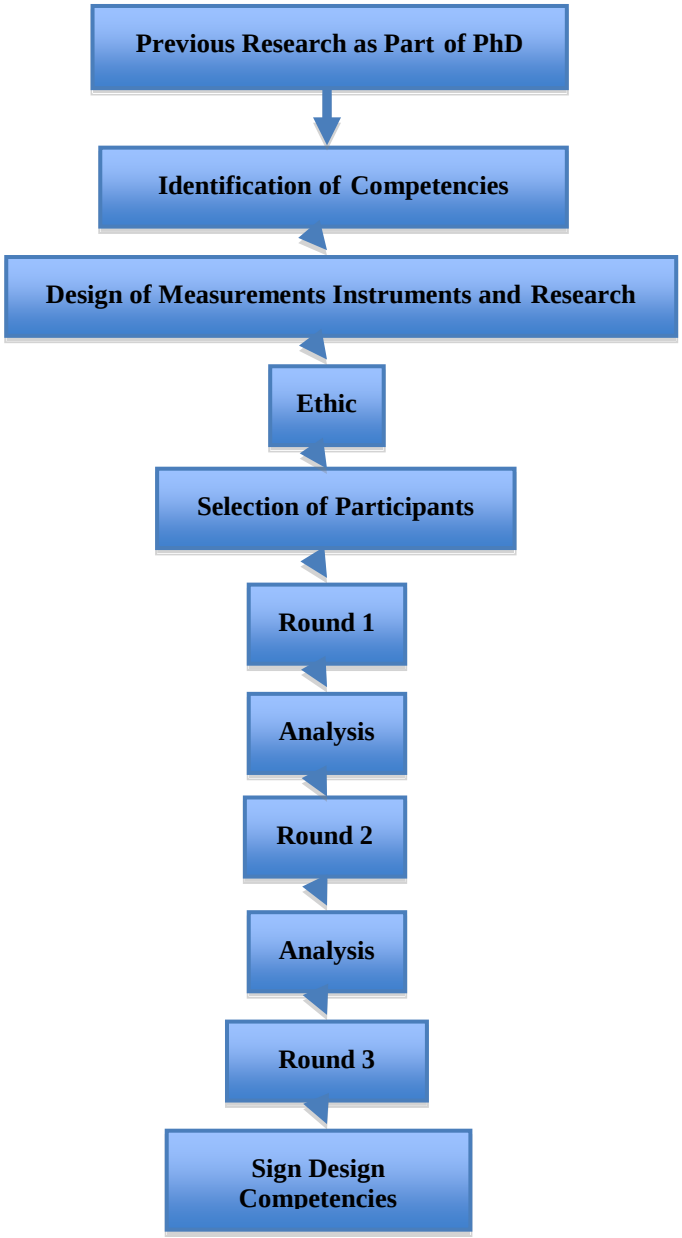

Figure 8.1. Process and study diagram for identification of competences in sign design

Critcher and Gladstone (1998) highlighted the fact that Delphi does have a hybrid epistemological status as it straddles the qualitative and quantitative divides, it is evident in the Delphi methods (Stewart et al 1999). The Delphi Technique described here uses mail or email to gather information, provide feedback, and report conclusions.

The objectives associated with using a Delphi technique method have been described by Delbecq *et al.* (1975) as follows:

1. To determine or develop a range of possible program alternatives
2. To explore or expose underlying assumptions or information leading to different judgments
3. To seek out information which may generate a consensus on the part of the respondents' group
4. To correlate informed judgments on a topic spanning a wide range of disciplines
5. To educate the respondent group as to the diverse and interrelated aspects of the topic.

In this research it is being used to generate a consensus on the part of the respondent group, and generate new information about a fixed topic. The Delphi process is usually conducted in three stages. Stage one is the selection of the expert panel. Stage two consists of the submission, assessment and feedback of the questionnaires. The final stage consists of the final analysis and conclusion (Kerr, 2001).

From the previous stages of the research an initial set of 31 competencies were drawn up, some of which were alluded to in Chapter 7. A seven point Likert scale was

used to enable each expert to independently rate each competence in terms of the extent to which s/he agreed that it was an essential competency for a sign designer. Since Likert 7 point scale was employed, the responses were classified under three levels: 1-3.5 complete disagreement; 3.5- 4.5 slightly agreement; 4.5 – above as complete agreement, which mean that 7 indicated complete agreement, down to 1 which indicated complete disagreement. The questionnaire was designed in three parts:

- Part one: A covering letter which includes the title, the aim and the completion instruction.
- Part two: Close ended questions
- Part three: Open question, to enable participants to suggest any new competencies they think important in in which can be included in the second and third rounds questionnaires.

According to Delphi Method, the study comprised 3 rounds of questionnaires (Figure 7.1). The first round aimed to rate the 31 proposed competencies. The second-round questionnaire was based upon responses from the preceding questionnaire in round one, old suggested competencies. The third round was based on the result of the first and second round. In this round participants were asked to identify the most important 25 competencies. Yu Wang, (2006) and Dharavath, (2003) identified 20 competencies in their studies. In this study the researcher asked the panel of experts to identify 25 competencies in order to develop to close gaps between education and practice goals and provide strategic direction for the curriculum. In this way, after three rounds a consensus was reached on the most appropriate competencies.

The experts were asked to score which competencies they thought were important and meaningful to sign designers. After each round was completed the data

was analysed with means, and standard deviations calculated to show the most popular competencies and the range of responses. The means and standard deviations were calculated to reflect the scores (Aron et al, 2005). A competence which was rated highly would have a higher score, and if there was a high level of agreement would have a smaller standard deviation. As the respondents were drawn from two populations (practitioners and academics) it was hypothesised that there may be a difference in the ratings of the two groups. The mean is the most commonly used statistical calculation. The standard deviation was used to describe the distribution of data (Glass & Hopkins, 1996).

Inferential statistics were used to make judgments of the probability that an observed difference between the educators and the industry groups was a dependable one or one that might have happened by chance in this study. As the participants of this study composed of two groups Academics (As) and Practitioners (Ps) it was expected that there will be a significant differences in their perception towards the competencies. The following hypotheses have been derived

H1: “there are significant differences between the practitioners and academics in identifying the most important competencies to sign design.”

There are two types of statistics analysis: parametric and non parametric. Parametric statistics is a branch of statistics that assumes that the data has come from a type of probability distribution and makes inferences about the parameters of the distribution (Geisser and Johnson, 2006). Nonparametric statistics is a statistical method where in the data is not required to fit a normal distribution. Nonparametric statistics uses data that is often ordinal, meaning it does not rely on numbers, but rather a ranking or

order of sorts (Corder and Foreman, 2009) . In this study nonparametric was selected to analyse the data as the sample was less than 30.

In order to test these hypotheses the Mann-Whitney test was selected. This test is most commonly used for nonparametric test to find differences between two groups. It is defined as a non-parametric statistical hypothesis test for assessing whether one of two samples of independent observations tends to have larger values than the other. It is one of the most well-known non-parametric significance tests (Gibbons and Chakraborti, 1991).

The result of the Mann-Whitney test as it appeared in Table 8.8 illustrates that both groups (Practitioners and Academics) have got complete agreement and understanding for the need of these competencies for sign design and the test shows insignificant differences.

All rounds were sent by electronic mail, which made it easier to contact participants and also saved time, as well as overcoming geographical limitations. The participants were instructed to respond within one week.

Dunham (1998) suggested that sending questionnaires electronically, such as by e-mail, could significantly decrease the time required for completing the required stages. To avoid spam e-mail issues, text messages (SMS) by mobile phone were sent to participants to notify them of the arrival of the questionnaire.

8.4.1 Expert panel

Forty invitations were sent out, with the hope of having a pool of 30 experts. 16 practitioners (10 members of the Sign Design Society in the UK, 6 members from the sign industry in Jordan, India, USA, and Canada) and 11 academics (UK, USA,

Jordan, India, and Korea) agreed to take part. The panel consisted of post/undergraduate graphic design educators and industry representatives in graphic design, sign design, information design and architectural areas. Reasons for non-participation included prior workload and commitments and lack of specialist knowledge.

The 27 who agreed to take part were interested in the issue and felt personally involved in the problem. The comments received were positive and showed that the experts thought the study was worthwhile. Example comments include,

> 'I have read your explanation of the study and am happy to accept your invitation to participate.' and
>
> 'It's great to do this graphic design research. There is not that much that has been done in our field', and
>
> 'It will be my pleasure to participate in the research. I am suggesting that a friend also participates in your research', also
>
> 'After your research, can you send me the result? I am anxious to know about the research results', and 'It would be interesting for me and perhaps we could collaborate to form a programme for sign design as well'.

Their interest confirmed that the results would be of interest to many practitioners and academics, not just those in Jordan.

8.5 First Round

The first-round questionnaire was sent to all 27 panel members, and they were given one week to respond. The panel responded to the 31 beginning competencies by indicating the level of desirability on a 7 point Likert scale. As shown in Table 8.1, 23 members returned the first-round questionnaire. This represented a return response rate of 85 percent (Appendix 6). There was some drop out in subsequent rounds as shown in Table 8.1.

The purpose of the first-round was not just to gain consensus on the competencies discovered through the research but also to obtain new concepts in order to build the second-round questions.

Questionnaires	Number of Participants	Number of Responses	Percent of Responses
First Round	27	23	85 per cent
Second Round	27	22	81 per cent
Third Round	27	22	81 per cent

Table 8.1. Participants' response rates for three rounds of questionnaires

The 31 competencies were rated near scores of between mean 4.35 and 6.87, with an overall mean 5.935 as shown in Table 8.2.

	Competencies in Sign Design: Applied understanding of…	P's Mean	P's SD	A's Mean	A's SD	Total Mean	Total SD
11	…how the work will be viewed by sign users.	7.00	0.00	6.70	0.48	6.87	0.34
16	… use of typography and its judicial application.	6.77	0.44	6.90	0.32	6.83	0.39
4	… sign regulations.	6.69	0.63	6.70	0.48	6.70	0.56
13	…how to fulfil a design brief.	6.54	0.66	6.70	0.48	6.61	0.58
24	…recognize physical, cognitive, cultural and social human factors that shape design decisions	6.54	0.66	6.70	0.48	6.61	0.58
6	… concepts of visual literacy.	6.85	0.38	6.20	1.03	6.57	0.79
12	…the clients' stated and unstated needs.	6.54	0.66	6.50	0.71	6.52	0.67
15	… principles of environmental graphic design.	6.69	0.48	6.30	0.95	6.52	0.73
23	… the process of planning and designing signage system	6.46	1.13	6.40	1.26	6.43	1.16
5	…colour theory.	6.69	0.48	6.00	1.15	6.39	0.89
8	… properties of materials.	6.62	0.51	6.00	1.05	6.35	0.83
22	… sign design software (both2D and 3D).	6.08	1.19	6.30	0.95	6.17	1.07
31	...research skills.	5.85	1.21	6.60	0.70	6.17	1.07

17	… understanding of and ability to utilize tools and technology	6.08	0.76	6.10	1.20	6.09	0.95
14	…visual flair and creativity.	6.08	0.64	6.10	1.29	6.09	0.95
9	… economics of sign design.	6.08	1.04	6.00	0.67	6.04	0.88
3	… history of signage.	5.69	1.25	6.40	0.97	6.00	1.17
29	…ethics in practice	5.69	0.95	6.30	0.95	5.96	0.98
20	…graphic design communication trends	5.69	1.11	6.10	0.99	5.87	1.06
21	….aesthetic guidelines for architectural graphics	5.77	1.24	6.00	1.41	5.87	1.29
30	...different file formats.	5.54	1.27	6.10	0.88	5.78	1.13
2	… history of graphic design.	5.08	1.98	6.60	0.70	5.74	1.71
26	… technical communication skills.	5.77	1.01	5.50	1.18	5.65	1.07
10	… role of printing machines in the sign industry.	5.62	1.33	5.70	1.25	5.65	1.27
7	…Gestalt psychology.	5.46	0.88	5.70	1.49	5.57	1.16
19	… drawing.	5.00	1.00	5.60	1.51	5.26	1.25
18	…photographic methods.	4.85	0.99	5.30	1.34	5.04	1.15
1	… history of art.	4.31	1.60	5.60	0.70	4.87	1.42
27	… basic marketing.	4.85	1.07	4.60	1.51	4.74	1.25
25	…screen printing.	4.77	1.09	4.60	1.96	4.70	1.49
28	… basic public relations.	4.08	1.55	4.70	1.49	4.35	1.53
	Total	181.7	29.19	187	31.5	184.0	30.3
	Mean	5.862	0.941	6.032	1.01	5.935	1.01

Table 8.2.The Mean and SD results of 31 competencies in the first round

As: Academics Ps: Practitioners

8.5.1 First Round Analysis

In the first-round, the participants identified 31 competencies with a total mean of 5.935 and a range from mean 4.35 to 6.87. The most important competencies judged to have been rated from mean 4.35 (which is above 4 on Likert scale) to mean 6..87, among these competencies, 26 competencies were identified by the Practitioners and 28 competencies were identified by the Academics.

There was agreement between the academics and practitioners as to which competencies were most important. Mann-Whitney test show this agreement in Table 8.4

17 competencies were given scores of total mean 6.0 and above (as shown in Table 8.3 below). These competencies rating shows clearly the significant level of agreement between the academics (As) and the practitioners (PS). It reflects the way how both the academics and the practitioners perceive the importance of these competencies to sign design

*Item No.	Competencies in Sign Design: Applied understanding of…	Ps Mean	As Mean	Mean
11	…how the work will be viewed by sign users.	7.00	6.70	6.87
16	…the use of typography and its judicial application.	6.77	6.90	6.83
4	… the relevance of sign regulations	6.69	6.70	6.70
13	…how to fulfill a design brief	6.54	6.70	6.61
24	… recognize physical, cognitive, cultural and social human factors that shape design decisions.	6.54	6.70	6.61
6	… the concepts of visual literacy	6.85	6.20	6.57
12	…the clients stated and unstated needs	6.54	6.50	6.52
15	…the principles of environmental graphic design	6.69	6.30	6.52
23	… the process of planning and designing signage system	6.46	6.40	6.43
5	…colour theory	6.69	6.00	6.39
8	…. the properties of materials	6.62	6.00	6.35
22	… sign design software (both2D and 3D).	6.08	6.30	6.17
31	… research skills	5.85	6.60	6.17
14	.... visual flair and creativity.	6.08	6.10	6.09
17	… understanding of and ability to utilize tools and technology	6.08	6.10	6.09
9	…economics of sign design	6.08	6.00	6.04
3	… the history of signage	5.69	6.40	6.00

Table 8.3. Highest rating competencies in the first round

* The item number as appeared on the first round questionnaire

There was agreement between the academics and practitioners as to which competencies were most important. The Mann-Whitney test shows this agreement in Table 8.4a, Mann-Whitney U=421, P=0.402 which indicates for significant agreement. In terms of the mean rank, Table 8.4b shows that the Practitioners' mean

is higher than the Academics' (Academics mean= 29.58, Practitioners mean = 33.42), this difference is not high and the remains insignificant.

	sco
Mann-Whitney U	421.000
Wilcoxon W	917.000
Z	-.838
*Asymp.Sig. (2-tailed)	.402

*P>5% **>1%

Table 8.4a. shows Mann-Whitney U= 421 and P=0.402

Group		N	Mean Rank	Sum of Ranks
sco	Academic	31	29.58	917.00
	Practitioners	31	33.42	1036.00
	Total	62		

Table 8.4. Shows Academics and Practitioners mean ranks

8.5.1.1 New competencies

The 31 competencies were taken forward into the next round in addition to the 36 competencies that were suggested by the participants.

The participants suggested 44 new competencies (Table, 8.5), 18 by the academics and 26 by the practitioners. These were refined into 36 competencies, owing to interchangeable, overlapping and interrelated meanings.

	Academics suggestions	**Practitioners suggestions**
1	Project management skills	Able to communicate and sell idea and design to client
2	Introduction to Urban Design (as a useful access to the work of architects, landscape architects, planners and engineers)	Demonstrate their design with work
3	The ability to question a brief.	Can design to a budget

4	Questioning a brief is fundamental to understanding what is required from a designer.	Can manage the design and manufacturing process from brief to installation
5	Styles and trends of typography	Can include many different functions in one sign
6	Anatomy of Typography	Can specify materials and understand how they work
7	Idea exploration and development	Can include factors that make the sign accessible to those with various disabilities.
8	Symbols and Icons	Landscaping Design and planning [sign posts are part of the planned environment]
9	Visual Thinking	Traffic regulations [considerations for placing sign posts]
10	Ornamentations and typography	Human factors in the open space environment
11	Ideation for Designing new typographic styles	Human factors in the architectural environment
12	The communication aspects of typography	Sustainability
13	Coasting	Materials
14	Presentation skills.	Research the usage of mapping systems and users ability to understand them
15	Understanding structure	Spatial awareness
16	Understanding lighting	Accessibility
17	Analytical ability	Visual and ergonomic
18	Decision making	Pictogram development and systems
19		Legal implications i.e designers liability, planning consents, display of information, copyright.
20		CDM regulations
21		Environmental aspects
22		Visual impact of scale
23		The concept of branding when applied to a signage system.
24		The colour palette, typography and imagery
25		Local cultural symbolism and colours
26		Research and understand user literacy, visual literacy levels

Table 8.5. Competencies were suggested by both groups As and Ps

8.6 Second Round

The participants were asked to rate the competencies in a similar way to round one, using the 7 point Likert scale (Appendix, 12). The mean scores ranged from mean 4.62 to mean 6.57 as shown in Table 8.6, The Practitioners identified 63 of the competencies as most important, with scores of over mean 5.00 to mean 6,69 . The Academics identified 66 competencies as most important to sign design, rated from total mean 5.00 to mean 6.625.

	Competencies in Sign Design: Applied understanding of…	P's Mean	P's SD	A's Mean	A 's SD	Total Mean	Total SD
44	… how to fulfil a design brief	6.54	0.52	6.625	0.74	6.57	0.60
12	…the use of typography and its judicial application.	6.62	0.51	6.375	0.74	6.52	0.81
19	… colour theory.	6.54	0.66	6.5	1.07	6.52	0.81
1	… the relevance of sign regulations.	6.54	0.66	6.375	1.06	6.48	0.81
25	… the principles of environmental graphic design	6.69	0.48	6.125	1.13	6.48	0.81
45	… question a brief.	6.38	0.77	6.625	0.74	6.48	0.75
48	… the process of planning and designing signage system	6.46	0.78	6.375	0.74	6.43	0.75
53	… how the work will be viewed by sign users.	6.38	0.65	6.5	0.76	6.43	0.68
27	… human factors in the architectural environment	6.38	0.96	6.375	0.74	6.38	0.86
4	…the properties of material	6.31	0.63	6.375	0.92	6.33	0.73
18	….symbols and icons	6.54	0.66	6	0.93	6.33	0.80
13	…communication aspects of typography	6.46	0.78	6	1.07	6.29	0.90
24	… environmental aspects	6.31	0.75	6.25	0.89	6.29	0.78
41	… accessibility issues.	6.54	0.52	5.875	0.99	6.29	0.78
8	…the visual impact of scale	6.23	0.93	6.25	0.71	6.24	0.83

11	…understand user literacy	6.38	0.77	6	1.07	6.24	0.89
67	…the clients stated and unstated needs.	6.31	0.63	6.125	0.99	6.24	0.77
9	…the concept of visual literacy	6.38	0.87	5.875	1.13	6.19	0.98
10	…visual thinking	6.15	0.90	6.25	0.71	6.19	0.81
66	…sign design software (both 2D and 3D).	6.00	0.91	6.375	0.74	6.14	0.85
46	… understanding of and ability to utilize tools and technology.	6.23	0.60	6	0.76	6.14	0.65
40	… the usage of mapping system and users ability to understand them.	6.38	0.65	5.625	0.92	6.10	0.83
56	… recognise physical, cognitive, cultural and social factors that shape design decision.	6.31	0.85	5.75	0.89	6.10	0.89
5	…how materials can be processed.	5.85	0.99	6.375	0.92	6.05	0.97
7	…visual flair and creativity	5.92	0.49	6.25	1.39	6.05	0.92
32	… awareness of all applicable stands for accessibility-visual and ergonomics.	6.15	0.90	5.875	1.25	6.05	1.02
33	… the economics of sign design.	6.08	0.64	6	1.31	6.05	0.92
39	… legal implication ie. Designers, liability, planning consent, display of information and copyright	6.31	0.48	5.625	0.74	6.05	0.67
50	… spatial awareness.	5.92	1.12	6.125	0.64	6.00	0.95
20	… colour palette and imagery	5.92	1.12	6.125	0.99	6.00	1.05
3	…traffic regulations.	5.77	1.24	6.25	1.04	5.95	1.16
26	…human factors in open space environment.	5.92	1.98	6	1.07	5.95	1.66
35	… communicate and sell idea and design to client.	6.15	0.80	5.625	1.30	5.95	1.02
6	…sustainable design material	5.92	0.86	5.875	0.99	5.90	0.89
47	… manage the design and manufacturing process from brief to installation	5.85	1.14	6	0.76	5.90	1.00
29	… aesthetic guidelines for	5.69	0.95	6	0.93	5.81	0.93

	architectural graphics.						
43	… analytical ability.	5.62	0.96	6.125	1.46	5.81	1.17
49	… sustainability.	5.85	0.80	5.75	0.89	5.81	0.81
55	…to use local cultural symbolism and colours	5.92	0.76	5.5	1.20	5.76	0.94
23	… history of signage	5.46	0.78	6.125	1.46	5.71	1.10
52	… presentation skills.	5.77	1.09	5.625	1.51	5.71	1.23
17	…styles and trends of typography.	5.62	0.77	5.75	1.04	5.67	0.86
34	… decision making and project management.	5.38	2.10	6.125	0.99	5.67	1.77
42	… research skills	5.46	1.05	6	1.41	5.67	1.20
28	… urban design	5.46	1.05	5.875	0.83	5.62	0.97
64	… drawing	5.54	1.20	5.75	1.28	5.62	1.20
62	… different file forms .	5.38	0.77	6	0.76	5.62	0.80
31	…understanding structure.	5.46	1.13	5.5	1.41	5.48	1.21
38	… best practice studies eg. ICOGRADA,AIGA, ISO etc.	5.92	0.95	4.75	1.16	5.48	1.17
60	… technical communication skills.	5.62	0.77	5.25	0.89	5.48	0.81
58	… graphic design communication trends.	5.31	0.75	5.625	1.19	5.43	0.93
65	… the role of printing machines in the sign industry.	5.15	1.14	5.875	0.83	5.43	1.08
16	… anatomy of typography.	5.46	1.13	5.25	2.38	5.38	1.66
15	…ornamentations and typography.	5.31	1.03	5.5	1.41	5.38	1.16
61	… ethics in practice	5.15	1.86	5.75	1.16	5.38	1.63
30	… landscaping design and planning.	5.15	0.80	5.625	1.06	5.33	0.91
22	…history of graphic design	5.15	0.55	5.375	1.60	5.24	1.04
2	…CDM regulations.	5.23	1.42	5.125	1.25	5.19	1.33

14	… ideation for designing new typographic styles.	5.08	0.86	5.25	1.16	5.14	0.96
36	… basic marketing.	5.23	1.09	5	1.20	5.14	1.11
63	… photographic method.	4.92	1.19	5.5	1.31	5.14	1.24
59	… screen printing.	5.00	1.00	5	0.93	5.00	0.95
54	… include many different functions in one sign.	5.08	1.26	4.75	1.28	4.95	1.24
57	… Gestalt psychology	4.69	1.60	5.375	1.51	4.95	1.56
37	… basic public relations.	5.00	1.00	4.75	1.49	4.90	1.18
21	…history of art	4.38	0.96	5.5	1.41	4.81	1.25
51	… coasting.	4.69	1.80	4.5	2.14	4.62	1.88
	total	388.95	62.7	390.6	73.3	389.63	67.6
	mean	5.805	0.93	5.830	1.09	5.815	1.01

Table 8.6. Ratings of the second round competencies.

8.6.1 Second round analysis

Of the 67 competencies rated in the second round, the Academics and Practitioners perceived 30 competencies as more important and relevant to sign design. This conclusion was supported by the high rates (mean of above 6.00) and higher level of agreement (lower SD 0.60) (Table 8.6).

Table 8.7 shows the 30 competencies with total means above 6.00 for both academics and practitioners. The similarity between the two set of scores should be noted.

*Item No.	Competencies in Sign Design: Applied understanding of…	A's Mean	P's Mean	Total Mean
44	…how to fulfill a design brief.	6.54	6.62	6.57
12	… the use of typography and its judicial application.	6.62	6.37	6.52
19	… Colour theory	6.54	6.5	6.52
1	…the relevance of sign regulations.	6.54	6.37	6.48
25	…the principles of environmental graphic design..	6.69	6.12	6.48
45	…question a brief	6.38	6.62	6.48
48	…the processes of planning and designing signage system	6.46	6.37	6.43
53	…how the work will be viewed by sign users.	6.38	6.5	6.43
27	…human factors in the architectural environment	6.38	6.37	6.38
4	…the properties of materials	6.31	6.37	6.33
18	…symbols and icons	6.54	6	6.33
13	…communication aspects of typography	6.46	6	6.29
24	…environmental aspects	6.31	6.25	6.29
41	...accessibility issues.	6.54	5.87	6.29
8	…the visual impact of scale	6.23	6.25	6.24
11	…understand user literacy	6.38	6.00	6.24
67	… the clients stated and unstated needs	6.31	6.12	6.24
9	…the concept of visual literacy	6.38	5.87	6.19
10	… visual thinking	6.15	6.25	6.19
46	… understanding of and ability to utilize tools and technology	6.23	6.00	6.14
66	… sign design software (both 2D and 3D)	6.00	6.37	6.14
40	The usage of mapping system and users ability to understand them	6.38	5.62	6.10
56	… recognise physical, cognitive, cultural and social factors that shape design decision.	6.31	5.75	6.10
7	…visual flair and creativity	5.92	6.25	6.05
32	… awareness of all applicable stands for accessibility-visual and ergonomics.	6.15	5.87	6.05
39	… … legal implication ie. Designers, liability, planning consent, display of information and copyright	6.31	5.62	6.05

33	… the economics of sign design.	6.08	6	6.05
34	… decision making and project management.	5.38	6.12	6.05
20	… colour palette and imagery	5.92	6.12	6.00
50	… spatial awareness.	5.92	6.12	6.00

Table 8.7. The competencies with higher score of total mean 6.00 to 6.57 in the second round.

* Item number as shown on the second round questionnaire

When both the academics' and the practitioners' results were pooled, the practitioners were found to rate the competencies slightly higher than the academics, except for Gestalt theory, colour palette, proportion of materials and imagery, spatial awareness, traffic regulations, visual flair and creativity, questioning a brief and how the work will be viewed by sign users.

The result of the Mann-Whitney test as it appeared in Table 8.9a illustrates that both groups (Practitioners and Academics) have complete agreement and understanding for the need of these competencies in sign design and the test shows only insignificant differences. It shows Mann-Whitney U= 2244, P=0.998, which indicates that the differences are not significant. Table 8.9bb shows that the mean rank has shown no high difference between the Academics' 67.49 and the Practitioners' 67.51. Further, the Sum of Ranks for academics was 4522.00 and for practitioners 4523.00.

	sco
Mann-Whitney U	2244.000
Wilcoxon W	4522.000
Z	-.002
*Asymp.Sig. (2-tailed)	.998

*P>5% **>1%

Table 8.9a. Shows Mann-Whitney U= 421 and P=0.402

	Group	N	Mean Rank	Sum of Ranks
sco	Academic	67	67.49	4522.00
	Practitioners	67	67.51	4523.00
	Total	13nks4		

Table 8.9b. Shows Academics and Practitioners mean ranks

8.7 Third Round

The third-round questionnaire was intended to identify the most needed competencies for a curriculum in sign design. Each expert was asked to select up to 25 competencies deemed most essential for sign design (Appendix, 13). All respondents selected at least 10 competencies they believed were needed to equip students learning sign design.

8.7.1 Third Round Analysis

Table 8.10 illustrates the fact that among the 67 sign design competencies identified by the panel of experts, 25 competencies were considered important by 10 or more respondents. The top six competencies were rated most highly by14 to 18 of the panel members. Item 1 "**The relevance of sign regulation**" was chosen by 18 panel

members, item 18 "**Symbols and icons**" by 17 panel members, item 4 "**the proportion of material**" was chosen by 15 members etc.

Respondents were asked to select the most important 25 competencies. Those with the higher rates were selected as the core competencies. Any competency that received a total score of 12.5 was regarded as an essential competency. Scores above 6 were considered as competencies.

Table 8.10 shows the competencies' rate and the derivation of the competencies, the derivation colour codes represent the research, academics and practitioners are the only sources for the competencies. The rating is represented by four shades of green to represent essential, competency, important and not important. The codes below explain the meaning of each colour.

Competencies rate colour codes:

Essential	Competency	Important	Not Important

Competency derivation colour codes

Research	Academics	Practitioners

Items	Item No.*	Competencies in Sign Design: Applied understanding of…	Total Frequency N=22	A's Freq. N=10	P's Freq. N=12
1	1	… relevance of sign regulation	18	8	10
2	18	…symbols and icons	17	7	10
3	4	… properties of material	15	7	8
4	23	… history of signage	15	6	9
5	25	… principles of environmental graphic design	15	7	8
6	12	… use of typography and its judicial application	14	5	9

7	6	… Sustainable design material	13	7	6
8	34	…decision making and project management	13	5	8
9	5	… the visual impact of scale	13	5	8
10	44	… how to fulfil a design brief	13	6	7
11	27	… human factors in the architectural environment	12	5	7
12	39	… legal implications ie. Designers, liability, planning consent, display of information and copyright	12	5	7
13	42	… research skill	12	7	5
14	47	… manage the design and manufacturing process from brief to installation	12	7	5
15	53	… how the work will be viewed by sign users	12	4	8
16	66	… sign design software(both 2D and 3D)	12	5	7
17	9	… the concept of visual literacy	11	6	5
18	10	… visual thinking	11	7	4
19	41	…accessibility issues	11	8	3
20	11	… understand user literacy	11	7	4
21	48	… the process of planning and designing signage system	11	4	7
22	55	… to use local cultural symbolism and colours	11	5	6
23	13	… communication aspects of typography	10	5	5
24	19	… colour theory	10	3	7

25	24	… environmental aspects	10	4	6
26	67	… clients stated and unstated needs	10	7	3
27	31	… understanding structure	9	3	6
28	43	… analytical ability	9	3	6
29	33	… the economic of sign design	8	1	7
30	50	… spatial awareness	8	3	5
331	7	… visual flair and creativity	7	4	3
32	26	… human factors in open space environment	7	3	4
33	29	… aesthetic guidelines for architectural graphics	7	3	4
34	40	… the usage of mapping system and user ability to understand them	7	1	6
35	56	…… recognise physical, cognitive, cultural and social factors that shape	7	2	5
36	16	… anatomy of typography.	6	3	3
37	22	… history of graphic design	6	3	3
38	60	… technical communication skills	6	2	4
39	35	… communicate and sell idea and design to client	6	1	5
40	2	… CDM regulation	5	2	3
41	3	… traffic regulations	5	1	4
42	14	… ideation for designing new typographic style	5	5	0
43	38	… best practice studies eg. ICOGRADA,AIGA, ISO etc.	5	4	1
44	32	… awareness of all applicable stands for accessibility-visual and ergonomics.	5	2	3
45	17	Styles and trends of typography	4	4	0
46	21	… history of art	4	3	1
47	46	… understanding of and ability to utilize tools and technology.	4	2	2
48	49	… sustainability.	4	2	2
49	51	…coasting	4	1	3
50	52	…presentation skills	4	1	3
51	57	…Gestalt psychology	4	3	1
52	5	… how materials can be processed	3	1	2
53	20	… colour palette and imagery	3	3	0
54	28	… urban design	3	1	2
55	37	… basic public relation	3	1	2
56	61	…ethics in practice	3	2	1
57	65	… the role of printing machines in the sign industry	3	0	3
58	58	… graphic design communication trend	3	2	1
59	45	… question a brief	3	1	2
60	15	… ornamentations and typography	2	1	1

61	30	… landscaping design and planning	2	0	2
62	36	… basic marketing	2	2	0
63	62	… different file forms	2	1	1
64	63	… photographic method	2	2	0
65	64	…drawing	2	0	2
66	54	… include many different function in one sign	1	0	1
67	59	… screen printing	1	0	1

Table 8.10. The most necessary 25 competencies for sign designers and the frequencies

* Item number as shown on round three questionnaire

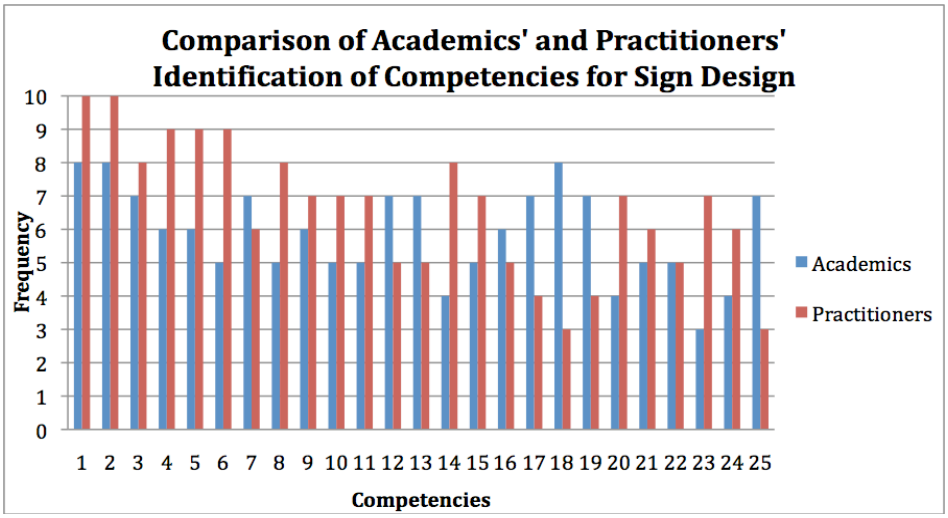

Figure 8.2. Comparison of Academics' and Practitioners' identification of the most necessary competencies

Figure 8.2 shows the difference in the competencies' frequencies between the Academics and Practitioners. It is noted that Practitioners' frequencies were between 3-10>12 but the Academics' frequencies were between 3-8>10. Academics rated competencies number 7,12,13,16,17,18, and 25 rather higher than Practitioners, but the graph shows relative agreement on most of ratings.

8.8 Conclusion

Throughout the ratings there was a high level of agreement between academics and practitioners. Although the process started with 31 competencies derived from the

research, these were doubled in the first round by suggestions from the panel of experts.

The overall validity of the research studies is influenced by the fact that of the 25 competencies rated most highly in the final round, 12 of these were derived from this investigation.

From an analysis of the results it may be concluded that sign designers need to employ a range of skills that go beyond sign design itself. The complete list of competencies, in order of importance, is shown in Table 8.11

	Competencies in Sign Design: Applied understanding of…
1	… The relevance of sign regulation
2	… the history of signage
3	… the properties of material
4	… Sustainable design material
5	… sign design software (both 2D and 3D)
6	… how to fulfil a design brief
7	… the visual impact of scale
8	…accessibility issues
9	… the concept of visual literacy
10	… understand user literacy
11	… how the work will be viewed by sign users
12	… visual thinking
13	… symbols and icons
14	… to use local cultural symbolism and colours
15	… colour theory
16	… the use of typography and its judicial application
17	… the communication aspects of typography
18	… the principles of environmental graphic design
19	… the environmental aspects
20	… manage the design and manufacturing process from brief to installation
21	… human factors in the architectural environment
22	…decision making and project management
23	… legal implications i.e. designers, liability, planning consent, display of information and copyright
24	… the process of planning and designing signage system
25	… research skill.

Table 8.11. the identified 25 competencies for sign designers.

These have been grouped into 5 overarching themes which can be used to introduce graphic design students to the fundamentals of sign design through practical work as shown in Table 8.12 with their scores in the 2nd and 3rd round.

Table 8.12 summarises the competencies needed to equip those designers to practice sign design. Although derived from a study of signage design in Jordan, the use of an international panel for the creation and validation of the competencies means that this set of skills can be transferred to other countries. These competencies include a mixture of elements drawn from design research and practice, management and graphic design.

Groups	**Competencies in Sign Design: Applied understanding of…**	**N. in study Table 8.10**	**Value Total Mean Frequency Tables (8.7, 8.11)**	**Derivation**
Knowledge	…the relevance of sign regulations	1	2nd R. M= 6.48 3rd R. 18>22	Research
	…history of signage	4	2nd R. M=5.71 3rd R. 15>22	Research
	…the principles of Environmental Graphic Design	5	2nd R. M=6.48 3rd R. 15>22	Research
Comprehension	…the properties of material	3	2nd R. M=6.33 3rd R. 15>22	Research Practitioners
	…Sustainable design material	7	2nd R. M=5.90 3rd R. 13>22	Practitioners
	…manage the design and manufacturing process from brief to installation	14	2nd R. M=5.90 3rd R. 12>22	Practitioners
	… sign design software (both 2D and 3D)	16	2nd R. M=6.14 3rd R. 12>22	Research
Collaboration and Application	…how to fulfil a design brief	10	2nd R. M=6.57 3rd R. 13>22	Research
	…manage the design and	14	2nd R. M=5.90	Practitioners

	manufacturing process from brief to installation		3rd R. 12>22	
	….legal implications i.e. designers, liability, planning consent, display of information and copyright	12	2nd R. M=6.05 3rd R. 12>22	Practitioners
	… the process of planning and designing signage system	20	2nd R. M=6.43 3rd R. 11>22	Research
	…decision making and project management	8	2nd R. M=5.76 3rd R. 13>22	Practitioners
	…research skill.	13	2nd R. M=5.67 3rd R. 12>22	Research
Analysis and Synthesis	…Sustainable design material	7	2nd R. M=5.90 3rd R. 13>22	Practitioners
	….understand user literacy	20	2nd R.M=6.24 3rd R. 11>22	Practitioners
	…how the work will be viewed by sign users	15	2nd R M=6.43. 3rd R.12>22	Research
	….visual thinking	18	2nd R. M=6.19 3rd R. 11>22	Research
	…the visual impact of scale	9	2nd R. M=6.24 3rd R. 13>22	Practitioners
	….symbols and icons	2	2nd R. M=6.33 3rd R.17>22	Academics
	….to use local cultural ….symbolism and colours	21	2nd R.M= 5.76 3rd R.11>22	Practitioners
	….colour theory	23	2nd R. M=6.52 3rd R. 10>22	Research Practitioners
	….the use of typography and its judicial application	6	2nd R. M=6.52 3rd R. 14>22	Research Practitioner Academics
	…the communication aspects of typography	22	2nd R. M=6.29 3rd R. 10>22	Academics
Evaluation	…accessibility issues	18	2nd R. M= 6.29 3rd R.11>22	Practitioners
	…how the work will be viewed by sign users	14	2nd R.M= 6.43 3rd R.12>22	Research
	…the principles of	5	2nd R. M=6.48	Research

	Environmental Graphic Design		3rd R. 15>22	
	…the environmental aspects	24	2nd R.M=6.29 3rd R.10>22	Practitioners
	…human factors in the architectural environment	10	2nd R. M= 6.38 3rd R. 12>22	Practitioners

Table8.12. Shows five categorise groups included the 25 identified competencies by the expert panel as the most important

These competencies illustrate that training must range from the highly general to the highly specific training and move beyond definitions of design skills that relate to graphic design principles only. They clearly reveal the broader knowledge of physical design and wider values that sign design students must carry into the field of practice. The value of being able to see perspective in a problem; the value of being able to understand the factors that impact sign design as it is revealed in the application of knowledge model; and the value of being able to create effective commercial signage.

Press and Cooper (2003) suggest that:

> ‘a new designer in the 21st century will need to accomplish the roles of intelligent maker, knowledge worker, sustainable entrepreneur, and active citizen concerned with issues of environment, society, commerce, network communication, etc. The expected roles that designers will play in the 21st century need to be incorporated into design education’.

Figure 8.1. The identified sign design competencies combined with the application of knowledge model.

Figure 8.1 relates the competencies to the application of knowledge model, in which the designer will be equipped with the knowledge that will enable him to cope with the site issues, production issues and human factor issues. These competencies involve human factors, architecture, graphic design principles and physical design which reveal the challenges for educational institutions in developing curricula, and for the sign industry in recruiting their staff. The competencies are listed below in Table 8.13 in order to identify their implications and define the requirements of the sign designer.

Competencies in Sign Design: Applied understanding of…	Implications
…the relevance of sign regulations	Broad understanding of the issues related to the regulatory requirements of design, including materials, size, location, number and style of signs
…history of signage	Broad understanding of the history of signage, and the evolution of sign making, realising issues related to the cognitive, social, cultural, technological, material and economic contexts.
…the principles of Environmental Graphic Design	Understanding of how to create and develop visual mediums in a space, including understanding importance of hierarchy, typography, aesthetics, composition and construction of effective signage.
…the properties of material	Understanding of and ability to utilise appropriate materials, tools and technology
…Sustainable design material	Understanding of how systems behave and aspects that contribute to sustainable products and strategies which complement and integrate with the environment
…manage the design and manufacturing process from brief to installation	Management and communication skills necessary to function productively within large interdisciplinary teams.
… sign design software (both 2D and 3D)	Understanding of and ability to utilize sign design software controlling the manufacturing process
…how to fulfil a design brief	Ability to construct arguments for solutions that address diverse users/audiences regarding architecture, material lifespan issues and business/organizational criteria
….legal implications i.e. designers, liability, planning consent, display of information and copyright	Ability to understand issues relating to ethics, copyright, planning visual perception and the display of information
… the process of planning and designing a signage system	Understanding of how systems are perceived and aspects that contribute to sustainable products, strategies and practices
…decision making and project management	Ability to collaborate productively in large interdisciplinary teams
…research skill.	Ability to solve communication problems, including identifying the objective and researching, analysing, proposing solutions and generating, prototypes, testing and outcome evaluation

….understand user literacy …how the work will be viewed by sign users	Understanding of the nested items including cause and effect and the ability to develop and use project evaluation criteria that account for audience and context
….visual thinking …the visual impact of scale	Using a visual approach to facilitate the thought process and simplify the lifecycle of visual language. Conceive, consider, create and craft.
….symbols and icons ….to use local cultural symbolism and colours	Understanding the cultural content in the broad and comprehensive manner in order to best communicate meaning.
….colour theory	Understanding colour theory and psychology and how colours are perceived within specific cultures and how designers can best sense how the colours affect customers in various cultures.
….the use of typography and its judicial application …the communication aspects of typography	Understanding of how typography may be used within specific cultures or contexts to indicate the distinguishable features of type and text, which together determine the usability of that type or text
…accessibility issues	Understanding the degree to which a product, device, service, or environment is available to people with visual or other cultural or user issues.
…the environmental aspects …human factors in the architectural environment	Understanding how human factors influence or direct sign design, construction and placement within spaces. This will influence the direction and decisions of designer's future practice.

Table8.13. Shows the identified competencies with their implications

Chapter Nine: Conclusion

9.1 Chapter Outline

This chapter will re-present the aims and objectives, describe how the research undertaken met these, present the contributions to knowledge, and discuss limitations to the work and suggestions as to how this research may be taken forward.

9.2 Introduction

This project emerged out of personal and public concern for the cityscape of Amman. As a Jordanian graphic design practitioner and resident I noted changes in the amount and variety of commercial signs appearing on buildings. Since 1980 Amman has grown rapidly. However, its regulatory bodies and developers have not, until recently, considered the effects unregulated commercial signs have on the appearance of the city (Al-Asad, 2004a). The result, to my mind, was that the signs had become a source of visual pollution detracting from the overall appearance of the city. This was in agreement with the concerns expressed by Abu-Ghazzeh (1997). The first part of the research sought to confirm whether others in Amman shared my opinion and then to propose ways in which graphic designers could improve the design of commercial signage in Amman and, as a consequence, the visual environment.

The following research questions guided this study:

- What are the shortcomings of current commercial signage in Amman?
- What is the current and future role of graphic designers in creating commercial signs?

- To what extent does current training equip graphic designers for a career in commercial sign design?
- What type of competencies do graphic designers need if they are to become sign designers.

9.3 Findings

The above research questions and subsequent findings have formed the main base for addressing the aim and objectives of the research, which required a directed approach. It is argued that the visual clutter produced by unregulated signage cannot be eradicated by regulation and legislation alone. This would negatively impact on the sign design industry, the livelihoods of many retailers and stifle creativity.

The research commenced with an investigation of the state of the commercial signage in Amman, and how it was perceived by different stakeholder groups. That the unregulated build up of commercial signage was a problem for the city was tacitly acknowledged by the regulations imposed by Greater Amman Municipality. These regulations (focussing on sign installation, location, quantity and size) came into being and were enforced quickly in 2007 with little consultation. This had a profound effect on the research, as much of the initial visual analysis of the urban environment became redundant and the planned survey had to be redesigned.

The survey confirmed the general level of concern about the negative effects of commercial signage, the confusion brought about by the design and implementation of the new regulations, and the lack of status of the sign design profession in Amman – evidenced by the lack of consultation with this group in drawing up the regulations. Designers and their clients had to immediately deal with

regulations which conflicted with local needs and the architecture of the city. From this study it was argued that regulation alone will not lead to improved quality in the production and siting of commercial signage without multi-stakeholder buy-in and the dedicated training of the designers working in this field.

The survey and visual analysis of the environment led to the need to understand the practice of sign design and the knowledge needed by sign designers in the creation of aesthetically pleasing, effective and unique signs against a background of regulations, and site specific environmental and architectural issues Figure (9.1). Sign designers need to expand their knowledge base to be able to create designs that work well with the surrounding environment. They must be able to grasp and develop multiple sources of information. Designers need quick responses in the face of daily challenges to gain a competitive advantage.

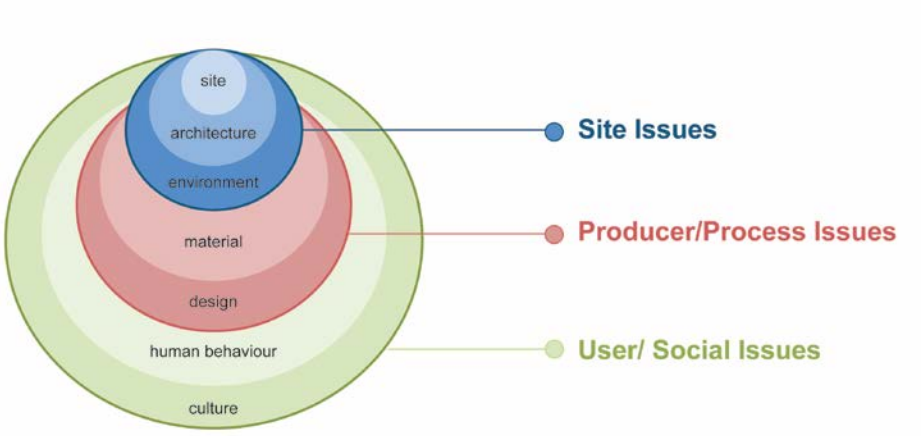

Figure 9.1. An application of knowledge to a particular space.

In order to understand these issues, two studies were undertaken: The photographic, cross cultural survey of McDonald's restaurant signage affirmed that even within tightly controlled franchises, sign designers need to work within the boundaries of the site, the architectural heritage and comply with planning

regulations, and that failure to understand and take notice of such issues can produce unattractive signage which does little to enhance the urban environment.

A further case study was conducted to understand in more detail the local factors which need to be addressed by sign designers and how they approached and worked to the design brief. The case study of the development of Coventry University's corporate signage highlighted;

- The role of sign designers, from initial consultation through to erection of signs
- The relationship between the designers and different agencies (such as Corporate Affairs, the sigh manufacturers and local council: planning department)
- The importance of the research and analysis mechanism, such as the understanding of human factors in architectural environment, the buildings' style and function, materials to be used, and finally regulations
- Perception of the resultant signage by the university population (eg its function and ability to communicate the university mission statement)

Key learning from these studies was the need for designers to be aware of the impact commercial signage can have on different user groups, the process of developing commercial signage and the need for any one sign to not only fulfil the client's needs but also to accommodate local practice and to be in harmony with the architecture and local environment. A sign which simply promotes the client's wishes (to attract attention to the retail outlet) may well become a source of visual clutter. The design of a sign or signage system (as at Coventry University) needs specialised skills and knowledge in sign design, as well as the utilisation of graphic design

principles to improve the place identity and ensure that the space has its own content. Such skills include problem solving, the relevance of sign regulations, the properties of material, the visual impact of scale, and competency in the application of the latest multimedia technology.

The third question sought to evaluate the extent to which current training equips graphic designers for a career in commercial sign design. An interview study was conducted with those practicing sign design in Amman to understand what skills they needed, and the extent to which their education had equipped them for practice in commercial sign design. 90% of the designers agreed that what they had learnt in their courses could be applied to outdoor advertising on billboards, but was not sufficient to enable them to deal with all the issues which needed to be considered in sign design. In particular, they felt a gap in knowledge in relation to materials, sign production, regulations, history of signage and awareness of environmental issues. They did not gain any special knowledge or training that enabled them understand the area the sign will be situated in and integrate it well with architecture and the surrounding environment (Figure 9.1).

A complimentary study investigated the extent to which sign design was taught in graphic design courses in design institutions in Jordan and the UK. The purpose of this study was to establish the extent to which contemporary courses included sign design in their curriculum, the way in which such teaching was conducted, and to establish the veracity of the designers' claims.

The designers stated that their educational experiences did not sufficiently prepare them for practice as sign designers. As this is a growing sector in many

countries, it is important to establish the competencies designers need to succeed in this profession, to avoid a plethora of unattractive signage. A series of interviews were conducted in Jordan and the UK with senior graphic design staff to understand course content, curriculum design and teaching and learning methods especially in reference to sign design. Together with the interviews with practicing sign designers, this study helped to determine the gaps in curriculum design in Jordan.

Examination of current design teaching showed a lack of specialised, detailed training in the practice of sign design in both Jordan and the UK. As a result, designers entering the market place may have little understanding of the skills and techniques central to the design of effective and aesthetically pleasing signage (unless they developed their own specialism in this through judicious selection of how they interpreted a general design brief).

Answering the first 3 questions of the research has shown that students may lack the knowledge and skills relating to signage. By developing designated and specialised teaching in sign design, sign designers will be better equipped to design and situate signage appropriately within the urban environment. Such teaching may be offered as part of an existing graphic design course, or as separate training in the industry.

The literature review and outcome of the studies mentioned above led to the development of 31 competencies (Table 7.4) which could be used as a basis for a specialised undergraduate module or course.

These were validated using a panel of sign design experts (academics and practitioners) in an adaptation of the Delphi technique. Through three rounds of consensus building, 25 competencies were identified, which were subsequently placed

into the following 6 groups (competencies' numbers are as appeared in Table 8.10):

- **Knowledge:** History of sign design, regulations and the theory of Environmental Graphic Design. Competency numbers 1, 4, & 5
- **Comprehension:** Particular focus on the properties of sustainable materials and the manufacturing process from a brief to installation. Exploring both old and new techniques. Competency numbers 3,7,14,& 16
- **Collaboration and Application:** Fulfil a design brief and the clients' stated and unstated needs, through the process of planning and designing a signage system. Competency numbers 8, 10, 12, 13, 14, & 20
- **Analysis and Synthesis:** Develop skills by exploration, visual thinking (visual literacy and user literacy) and aspects of typographic design to articulate the relationship between the visual and literal considering issues of visual and linguistic vocabulary (e.g. symbolism, semiotics) to identify effective solutions using text and image. Competency numbers 2, 6, 7, 9, 15, 18, 20, 21, 22, & 23
- **Evaluation:** Understanding the accessibility issues and environmental aspects in terms of Jordan's time, space and place and human factors in the architectural environment. Competency numbers 5, 10, 14, 18, & 24

These competencies are additional to those normally found in the current graphic design curriculum.

9.4 Research Contribution

The research outcomes were a new appreciation of the contribution sign design competencies can make to Jordan and the neighboring Arab countries.
The proposed contributions to knowledge are as follows:

1. Understanding of commercial signage on building facades in Amman
2. The development of a set of sign design (general and specific) competencies, which can inform curriculum design.
3. A model of the factors which need to be considered in sign design (Figure 9.1)

9.5 Reflections on the research process

This research was a personal journey. Coming from an art and design background, I knew relatively little about research at the commencement of the PhD research. It required me to think in new ways, substantiate claims and interweave threads from the literature review, case studies and interviews in order to understand the larger problems and develop a set of competencies which can guide new curriculum development.

The study illustrated that researchers investigating similar topics will not produce the same findings or conclusions because of differences in time, place, experience and culture

9.6 Limitations

Addressing the research questions required a strategy or ‘a general orientation to the conduct of social research’ (Bryman 2001). I have adopted a pragmatic approach to the use of research methods, appropriate to the questions being asked.

In all cases, small samples of respondents were used eg general public, municipal authorities, sign industry members, design practitioners and higher education tutors. The sample size may bias the results. However, in all cases a similar picture emerged, of a gap in the teaching of sign design.

There is a lack of research and documentation on the state of higher education in Jordan. This has limited the discussion on pedagogy and how higher education could be improved in Jordan. Additionally, few surveys have been made of the design community in Jordan.

9.7 Recommendations

The issues and competencies identified in the course of the research could contribute to improvements within the sign industry, as designers become better equipped for the task of sign design.

This research has shown that there is a need to build on its results and a need to ensure the most appropriate curriculum is available for sign design education. Educators and practitioners need to reshape design educational programs and practices.

It is also hoped that the involvement of stakeholders in both education and industry will provide support for the regulations introduced by organisations such as Amman Municipality to improve the urban environment.

Sign design tutors should be more active themselves in seeking more information and learning opportunities to develop their expertise by specialisation.

It is recommended that studies are conducted to know what recent design graduates, their employers and higher education institutions think about employability skills. What could be done differently in the future? This requires an investigation of whether the perceptions vary by employment sector and employer size.

9.8 Future work

The Sign industry and technology transformation and developments are changing by the day. This has an impact on education and practice which requires urgent collaboration between various stakeholders in the development of a curriculum which enables students to enter the profession with the right skills.

It is also hoped that the involvement of stakeholders in both education and industry will provide support for the regulations introduced by organisations such as the Amman Municipality to improve the urban environment.

Conducting a comparative study of graphic design within Jordanian design institutions is needed for the development of best practice.

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Appendices

Appendix One: Ethics

Appendix Two: Investigation of the perception of signage in Amman

Appendix Two: Investigation of the perception of signage in Amman

Questions Raised in Interviewing the Public and Designers:

- How do you describe the situation of the signs in Amman?
- What are the positive and negative aspects of Sign System before and after the new regulations in 2007.
- How do you locate the building you are looking for?
- In your opinion, who is responsible for the current situation of the Sign System? Is it the Amman Greater Municipality, the signs industry sector or the client itself?
- What is the function of the commercial signage? Do all sectors need an external sign fixed on the building?
- What is the relation between signs and buildings in Amman?
- What is the extent of the influence of the culture and tact of the person and his awareness of the function of the sign on its design and location?
- When you decide you need a sign, do you go to a graphic designer to design it or do you go directly to a sign manufacturing company?
- Are you fully aware of the signs regulations?

Questions Concerning the Signs Industry Sector:

- What criteria do you use to determine the necessity of signs on the buildings in Amman?
- What is the technique you follow when designing and producing signs?
- Do you follow this for all the signs you produce?
- Do you require the customer to give you the criteria of the design?
- Do you interfere in defining the size of the sign and the materials needed for its fabrication, if necessary?
- What are factors influence the raw materials and the shape of the sign most?
- What are the factors that interfere in your choice of the location of the sign?
- How do you decide what sign is successful, acceptable and satisfies the quality standards and criteria?
- How do you manage the work program in order to achieve the objectives of quality?
- Who decides the sign life span?
- Do you observe signs maintenance contracts?
- How would you classify your place in the signs industry sector?
- How do you get approval for the location of the sign?

- Do you comply with the regulations and legislations of the Sign System issued by the Amman Greater Municipality?
- How do you view these regulations, do they satisfy environmental, economic and organizational objectives?
- What role did you play in enacting or drawing up the new regulations?
- Are you satisfied, in your position as partner to the Amman Greater Municipality, with the Sign System? Are you playing through it the role assigned to you?
- Can you inform me about what distinguishes you in your work?
- What is your future view to Amman, and how do you see the Sign System in the future?

Questions for the Directorate of Professions & Signs in the Amman Greater Municipality:

1. What is your role with respect to the signs in Amman?
2. What purpose do signs serve?
3. Do you think the current signs are effective?
   Give reasons
4. Do you think the signs on the building are aesthetically pleasing?
   Give reasons.
5. Can you think of any that work particularly well?
6 If I wanted to put a sign on my office to advertise it. What process would I go through?
7 Is this the same for all types of signs?
8 What are the specific rules and regulations relating to signs?
9 Why and how have these developed?
10 What is the overall purpose of the sign legislations?
11 How is it enforced?
12 Do you think the legislation is making a difference to the signs?
13 Can you give an example of where the legislations effective?
14 Can you give an example of where more legislation might be needed?
15 What is your opinion regarding the use of signs in Amman?
16 Do you think that others share that opinion?
17 What changes would you like to see in the way in which signs are erected on buildings?
18 How much control over the visual environment should be exerted by the city planners?
19 How much control do you actually think they have?
20 What is your opinion of the sign industry?
21 What issues do you think they consider when they design signs?
22 Are they involved in the drawing up of regulations?
23 Do you think that they oppose regulations? Give reasons/examples
24 Are there any regions of the city that you would like me to focus on in my study
25 Can you think on anything else that might be important?

Appendix Three: The Development and Use of Signage on the Buildings of Coventry University

Appendix Three: The Development and Use of Signage on the Buildings of Coventry University

Target: Corporate Affairs/ Coventry University.

1. What was your role in the design process, how you describe it?
2. Why did you think CU should have signs on its buildings?
   2.1 Were there any signs already on the Buildings?
3. Was there a design brief that you gave to the designers?
   3.1 What sort of issues did it cover?
   3.2 Who developed it?
   3.3 Do you think it was fulfilled?
4. Were the concept designs developed in house or through a consultancy?
   4.1 Get some names for follow up interviews
   4.2 What was the design process

Looking at the design of the signs.

5. What influenced the choice of font/logo/colour?
6. Did the corporate identity you wish to portray influence the signs in any way
   6.1 What is the corporate identity?
   6.2 Does Coventry University have a Branding Manual?
7. How do you think this relates to the corporate image of the university?
8. Were there any rules and regulations you had to follow in the design?
9. How did you decide where the signs should be placed and what size they should be?
10. Do you think the new signs are in keeping with the city culture and add positively to the city environment?
11. Have you questioned people in the university and the city about what they think about the signs?
12. How do you know that the signs have been successful?
13. What is the life span of these signs?
14. How long do you think that they will last?
15. Has anyone else evaluated the effects of the signs in the university?
16. Is there anything else you can think of?

Target: Designers / Coventry University.

1. What was your role in the design process?
2. Can you tell me your perception of the way in which the signs were developed?
3. What is the most recent skill you have learned that related to sign design?
4. What additional knowledge have you gained from the project?
5. Explain some innovative solutions you developed?

6. Do you think that working closely with the sign manufacturer (Harris Signs) was useful? How?
7. According to you what skills are most important for a sign designer?
8. Being a graphic designer, tell me something more interesting about your experience in this project?
9. Tell me three things that worked well and three things that could be improved in relation to the CU sign design project.

1-	1-
2-	2-
3-	3-

Target: Signs Manufacturer

1. What was your role in the old and the new signage system of Coventry University?
2. Why did you think CU should have signs on its buildings
3. Do the new signs answer the design brief that you received?
4. How were the final signs selected?
5. What influenced the choice of sign shape and material?
6. How did you decide where the signs should be placed and what size they should be?
7. Do you think the signs are appropriate for the people who see them?
8. How do you think that signs relate to the corporate image of the university?
9. Do you think that the new signs are in keeping with the city culture and add positively to the city environment?
10. Were you happy with the result of the selection?
11. How do you know that the signs have been successful?
12. Were they easy to manufacture?
13. How did you manage the process?
14. How did you obtain consent to erect the signs?
15. Were there any rules and regulations you had to follow in the process?
16. What is the life span of these signs?
17. Has anyone else evaluated the effects of the signs in the university?
18. Do you maintain the signs? Do you sustain the system's integrity?
19. Are there any other examples of your work you could show me?
20. Is there anything else you can think of?

Appendix Four: Evaluation of the Extent to Which Current training Equips Designers for Working in Commercial Signage in Jordan

Appendix Four: Evaluation of the Extent to Which Current Training Equips Designers for Working in Commercial Signage in Jordan

1. What education do you have?
2. Why did you choose your major?
3. How has your education prepared you to be a graphic designer?
4. What did you learn in the university/college?
5. How did you learn sign design?
6. Did you have any training course?
7. How much the course relate to the sign design?
8. Do you think that the course was enough to provide you with skills and work in commercial field?
9. How quickly you learn the new process in sign design?
10. Do you consider yourself a sign designer?
11. Which specific skills are necessary for you to succeed as a sign designer?
12. How do your skills, experience and education differ from other designers?
13. What skills do you have that make you good designer?
14. What type of projects you work on?
15. What type of information do you need to start designing a sign?
16. What sort of consideration goes into designing sign?
17. What do you look for when designing a sign?
18. How would you define effective signage?
19. What experience have you had with sign design? Please provide samples.
20. Give an example of a situation at your work when you have changes in: Technology and terminology, regulations, and information.
21. How often in your professional experience have you encountered conflict between yourself and your design? Describe one such example

Appendix Five: Consent To Participate In Research

Appendix Five

CONSENT TO PARTICIPATE IN RESEARCH
Semi-structured interview

Title of project:
You are asked to participate in a research study conducted by **Essam Abu Awad,** as part of his PhD study in Graphic Design, supervised by **Prof. Andree Woodcock** from the **School of Art and Design** at **Coventry University**.

If you would like to participate in this study, please tick each box and sign at the bottom of the form;

1- I confirm that I have read and understood the information sheet for the study and have had the opportunity to ask questions.	
2- I understand that my participation is voluntary and I am free to withdraw at any time, without giving a reason and without effect on my legal rights.	
3- I agree that that my answers and comments may be used anonymously in the presentation of the research.	

My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

_____ _____

Name of Participant Signature of Participant

_____
Date

_____ _____
Name of Researcher Signature of Researcher

_____
Date

Appendix Six: Participant Information Sheet

Appendix Six

Participant Information Sheet
An investigation of the teaching of Sign Design in Jordan

You are invited to participate in the research project explained below. Thank you for taking the time to read this information, which is three pages long in total. Please make sure that you have read all the pages before consenting to take part.

This project follows the ethical guidelines of the British Psychological Society. It has been reviewed and approved by Coventry University ethics committee. If you have any queries do not hesitate to ask the researcher, whose contact details are at the bottom of this form.

What is the purpose of the study?

The overall aim of the research is to propose ways in which graphic designers can improve the design of commercial signage in the city of Amman in Jordan.
This study will enable me to understand:
- The way graphic design is taught
- The design of the curriculum
- The design competencies students are expected to exhibit on leaving the course

Why have I been chosen?

You have been chosen as someone who is an expert in teaching graphic design.

Do I have to take part?

No, you do not have to take part, but I believe that, as a graphic designer you will be interested in the study and the outcomes of it.
If, having read this, you are still interested in taking part, the interview will take about an hour. The interview will be audio recorded. It will be transcribed and all materials kept securely. Any views expressed in the session may be quoted in research reports but will remain anonymous.
If you know of anyone who would be a more appropriate interviewee please forward this information to them.

What are the possible disadvantages and risks of taking part?

There are no risks to taking part, but you will be asked to provide an hour of your time at a time and place convenient to you.

What are the possible benefits of taking part?

There are no direct benefits to yourself at this time. However, the information you provide will help in conducting a comparative study between UK and Jordanian Art and Design institutions. This will, hopefully, lead to improved course design in

Jordan's colleges and universities and better sign design as a consequence of this new teaching.

What if something goes wrong?

If you have any concerns or queries about this study, feel free to contact the researcher who will answer your questions. Contact details are provided at the end of this form.

What will happen if I don't want to carry on with the study?

You are free to withdraw from the research study at any time. Should you withdraw, all interview data concerning your participation will be destroyed.

What are the procedures for recording my data?

All your comments will be recorded using audio recording equipment. A typed transcription and analysis of this interview will then be made by the researcher. The material will be used solely in the context of this study. Data from approximately 12 interviews will be pooled to extract common experiences, best practice, and to derive a set of competencies that graphic design students should possess. This list of competencies will then be presented to an expert panel for their consideration.

Will my input be kept confidential?

All information will be kept strictly confidential. The processing of the information will be in accordance to the Data Protection Act, 1998. All information will be anonymised and access to this information will be kept strictly within the research team.

What will happen to the results of the research study?

The information you provide will be used to explore differences in graphic design programmes between Jordan and the UK and to show where additional training should be included.

Who is organising and funding the research?

The Faculty of Art and Design, Applied Science Private University in Jordan has provided a scholarship for this work. The project is directed by Coventry School of Art and Design.

Who has reviewed the study?

The study was given ethical approval by the Coventry University Research Ethics Committee.

Who do I contact for further information?

If you need any more information please contact:

Essam Abu Awad
Research Student

Coventry School of Art and Design
Maurice Foss Building
Room 305
Coventry University
Maurice Foss Building, Room 305
Priory Street
Coventry
CV1 5FB.

Tel: 078 2871 4148
Email: abuawade@coventry.ac.uk

Professor Andree Woodcock
Director of Studies

Coventry School of Art and Design
Bugatti Building Rm114
Coventry University
Coventry
UK

Tel: 024 7688 7061
Email : A.Woodcock@coventry.ac.uk

Appendix Seven: Jordan and the UK Tutors Interview Questions

Appendix Seven: Jordan and the UK Tutors Interview Questions

About the course

1. What is the vision of your undergraduate course?
    - What are the factors that drive your curriculum development?

2. How do you create an environment that,
    - nurtures and encourages innovative thinking and
      teaches social and cultural awareness?
3. How do you prepare students for the students for life after university/ world of work?
    - How do you encourage student-centred learning and personal development?
    - How do you teach students about the materials and techniques need to practice graphic design?
    - How are students taught to recognise and identify stylistic influences in design?

About the training:

4. What do you offer that enhance the student experience? e.g. discussion forum, logbook, self assessment, placement, overseas opportunities, global environment.
5. How does this course encourage conceptual thinking?
    - How do you support this?
    - Design teaching as experience-based learning requires questioning, problem solving, and thinking.
    - How do you teach students to analyse design and think critically in an objective way.
    - The course will help students sharpen their powers of observation, gain experience with various tools, materials and techniques.
6. Do you encourage students to set their own design briefs?
7. Can you tell me something about studio practice and how this is used to promote research, analysis, evaluation, and self-criticism?
    - How do you encourage student put this into practice?
8. Designers must be familiar with basic skills related to design practice.
    - How does the course prepare students for employment?
9. How is a student's portfolio developed?
10. How much of the course is based around lectures, and how much is focussed on studio practice? Where is the greater emphasis?
11. What type of skills and capabilities should a graphic design tutor possess?

Now some questions about sign design:

12. How do you teach sign design in the course? If you teach sign design specifically as a separate discipline, how much time do you spend on this?
    - If you don't teach it as a separate course, are there any briefs that could be 'handled' in this way. How does such teaching work? Do students select their own projects and have the option to select this type of brief.
    - Do you think that designers need different skills from other graphic design professions? For example, do they need to have a more developed knowledge of visual communication, human behaviour, organisation and the medium in which they are working.
    - How could these skills be taught? There is an argument that what differentiates sign designers from graphic designers is largely the artefact being designed (i.e. that they are designing a sign).
    - In the process of designing signage, the sign designer focuses on physical factors, organisational factors, semantic factors, influencing factors, regulatory and technological factors. In your opinion, how can sign design be constructed in such a way that exposes students to these many areas of sign design?

13. Give examples of design briefs and how you would expect students to work to these?

Appendix Eight : Covering letter

Appendix Eight: Covering letter

Dear

Thank you for agreeing to serve on the panel to identify competencies in sign design for graphic designers. I am sending you the "First Round" survey questionnaire.

Please complete and return the instrument by March 5, 2010 by email
After I have received all the panel members' responses, I will analyze them and return them to you for "Second Round" rating. Items are rated on a 1 to 7 scale from completely disagree to completely agree.

Comments can also be included with your rating. You can add new competencies, which you feel necessary to be included. All questionnaires are coded; however, your responses will be kept confidential. The final results will be shared with participants.

Again, thank you for your cooperation. Please do not hesitate to contact me directly should you have any questions or need assistance!

Sincerely,

Essam Abu Awad

PhD Research Student
Coventry School of Art and Design
Coventry University
Priory Street
Coventry
CV1 5FB

abuawade@coventry.ac.uk

www.essamabuawad.com
http://ezinearticles.com/?expert=Essam_Abu_Awad

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Appendix Nine: Round One Questionnaire

Obtaining consensus and validation from a panel of experts to identify a set of sign design competencies.

Appendix Nine: Round One Questionnaire

	Competencies in Sign Design: Applied understanding of…	Completely disagree	Disagree	Slightly disagree	No opinion	Agree	Slightly agree	Completely agree
1	…the history of art.	O	O	O	O	O	O	O
2	…the history of graphic design.	O	O	O	O	O	O	O
3	…the history of signage.	O	O	O	O	O	O	O
4	…the relevance of sign regulations.	O	O	O	O	O	O	O
5	…colour theory.	O	O	O	O	O	O	O
6	…the concepts of visual literacy.	O	O	O	O	O	O	O
7	…Gestalt psychology.	O	O	O	O	O	O	O
8	…the properties of materials.	O	O	O	O	O	O	O
9	…the economics of sign design.	O	O	O	O	O	O	O
10	…the role of printing machines in the sign industry.	O	O	O	O	O	O	O
11	…how the work will be viewed by sign users.	O	O	O	O	O	O	O
12	…the clients' stated and unstated needs.	O	O	O	O	O	O	O
13	…how to fulfil a design brief.	O	O	O	O	O	O	O
14	…visual flair and creativity.	O	O	O	O	O	O	O
15	…the principles of environmental graphic design.	O	O	O	O	O	O	O
16	…the use of typography and its judicial application.	O	O	O	O	O	O	O
17	… understanding of and ability to utilize tools and technology	O	O	O	O	O	O	O
18	…photographic methods.	O	O	O	O	O	O	O
19	… drawing.	O	O	O	O	O	O	O

20	…graphic design communication trends	O	O	O	O	O	O	O
21	….aesthetic guidelines for architectural graphics	O	O	O	O	O	O	O
22	… sign design software (both2D and 3D).	O	O	O	O	O	O	O
23	… the process of planning and designing signage system	O	O	O	O	O	O	O
24	…recognize physical, cognitive, cultural and social human factors that shape design decisions	O	O	O	O	O	O	O
25	…screen printing.	O	O	O	O	O	O	O
26	… technical communication skills.	O	O	O	O	O	O	O
27	… basic marketing.	O	O	O	O	O	O	O
28	… basic public relations.	O	O	O	O	O	O	O
29	…ethics in practice	O	O	O	O	O	O	O
30	… different file formats.	O	O	O	O	O	O	O
31	… research skills.	O	O	O	O	O	O	O

Please list any other competencies that you think should be considered.

Appendix Ten: Round Two covering letter

Appendix Ten

Round Two, covering letter

Dear

Thank you for continued support to identify the significant competencies in sign design. I am sending you the “Second Round” ” survey questionnaire.

Please complete and return the questionnaire by March 27, 2010 by email.

Many new competencies were suggested by the panel, have been included in the questionnaire. The “second round” will be the last opportunity for you to add new competencies. After I have received your responses, I will analyze them and return them to you for “Third Round” rating. Items are rated on a 1 to 7 scale from completely disagree to completely agree. Comments can also be included with your rating.

Again, thank you for your continuing cooperation. Please do not hesitate to contact me at abuawade@coventry.ac.uk should you have any questions or need assistance!

Sincerely,

Essam Abu Awad

PhD Research Student
Coventry School of Art and Design
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abuawade@coventry.ac.uk

Mobile: Removed for data protection reasons.

Appendix Eleven: Round Two Questionnaire

Obtaining consensus and validation from a panel of experts to identify a set of sign design competencies.

Appendix Eleven: Round Two Questionnaire

Competencies in Sign Design: Applied understanding of…		Completely disagree	Disagree	Slightly disagree	No opinion	Slightly agree	Agree	Completely agree
1	… the relevance of sign regulations.	O	O	O	O	O	O	O
2	…CDM regulations.	O	O	O	O	O	O	O
3	…traffic regulations.	O	O	O	O	O	O	O
4	…the properties of material	O	O	O	O	O	O	O
5	…how materials can be processed.	O	O	O	O	O	O	O
6	…sustainable design material	O	O	O	O	O	O	O
7	…visual flair and creativity	O	O	O	O	O	O	O
8	…the visual impact of scale	O	O	O	O	O	O	O
9	…the concept of visual literacy	O	O	O	O	O	O	O
10	…visual thinking	O	O	O	O	O	O	O
11	…understand user literacy	O	O	O	O	O	O	O
12	…the use of typography and its judicial application.	O	O	O	O	O	O	O
13	…communication aspects of typography	O	O	O	O	O	O	O
14	… ideation for designing new typographic styles.	O	O	O	O	O	O	O
15	…ornamentations and typography.	O	O	O	O	O	O	O
16	… anatomy of typography.	O	O	O	O	O	O	O
17	…styles and trends of typography.	O	O	O	O	O	O	O
18	….symbols and icons	O	O	O	O	O	O	O
19	… colour theory.	O	O	O	O	O	O	O
20	… colour palette and imagery	O	O	O	O	O	O	O
21	…history of art	O	O	O	O	O	O	O

22	…history of graphic design	O	O	O	O	O	O	O
23	… history of signage	O	O	O	O	O	O	O
24	… environmental aspects	O	O	O	O	O	O	O
25	… the principles of environmental graphic design	O	O	O	O	O	O	O
26	…human factors in open space environment.	O	O	O	O	O	O	O
27	… human factors in the architectural environment	O	O	O	O	O	O	O
28	… urban design	O	O	O	O	O	O	O
29	… aesthetic guidelines for architectural graphics.	O	O	O	O	O	O	O
30	… landscaping design and planning.	O	O	O	O	O	O	O
31	…understanding structure.	O	O	O	O	O	O	O
32	… awareness of all applicable stands for accessibility-visual and ergonomics.	O	O	O	O	O	O	O
33	… the economics of sign design.	O	O	O	O	O	O	O
34	… decision making and project management.	O	O	O	O	O	O	O
35	… communicate and sell idea and design to client.	O	O	O	O	O	O	O
36	… basic marketing.	O	O	O	O	O	O	O
37	… basic public relations.							
38	… best practice studies eg. ICOGRADA,AIGA, ISO etc.	O	O	O	O	O	O	O
39	… legal implication ie. Designers, liability, planning consent, display of information and copyright	O	O	O	O	O	O	O
40	… the usage of mapping system and users ability to understand them.	O	O	O	O	O	O	O
41	… accessibility issues.	O	O	O	O	O	O	O
42	… research skills	O	O	O	O	O	O	O

43	… analytical ability.	O	O	O	O	O	O	O
44	… how to fulfil a design brief	O	O	O	O	O	O	O
45	… question a brief.	O	O	O	O	O	O	O
46	… understanding of and ability to utilize tools and technology.	O	O	O	O	O	O	O
47	… manage the design and manufacturing process from brief to installation	O	O	O	O	O	O	O
48	… the process of planning and designing signage system	O	O	O	O	O	O	O
49	… sustainability.	O	O	O	O	O	O	O
50	… spatial awareness.	O	O	O	O	O	O	O
51	… coasting.	O	O	O	O	O	O	O
52	… presentation skills.	O	O	O	O	O	O	O
53	… how the work will be viewed by sign users.	O	O	O	O	O	O	O
54	… include many different functions in one sign.	O	O	O	O	O	O	O
55	…to use local cultural symbolism and colours	O	O	O	O	O	O	O
56	… recognise physical, cognitive, cultural and social factors that shape design decision.	O	O	O	O	O	O	O
57	… Gestalt psychology	O	O	O	O	O	O	O
58	… graphic design communication trends.	O	O	O	O	O	O	O
59	… screen printing.	O	O	O	O	O	O	O
60	… technical communication skills.	O	O	O	O	O	O	O
61	… ethics in practice	O	O	O	O	O	O	O
62	… different file forms.	O	O	O	O	O	O	O
63	… photographic method.	O	O	O	O	O	O	O
64	… drawing	O	O	O	O	O	O	O

65	… the role of printing machines in the sign industry.	O	O	O	O	O	O	O
66	…sign design software (both 2D and 3D).	O	O	O	O	O	O	O
67	…the clients stated and unstated needs.	O	O	O	O	O	O	O

Please list any other competencies that you think should be considered.

Appendix Twelve: Round Three Questionnaire

Appendix Twelve: Round Three Questionnaire

	Competencies in Sign Design: Applied understanding of…	*Most Needed*
1	… the relevance of sign regulations.	O
2	…CDM regulations.	O
3	…traffic regulations.	O
4	…the properties of material	O
5	…how materials can be processed.	O
6	…sustainable design material	O
7	…visual flair and creativity	O
8	…the visual impact of scale	O
9	…the concept of visual literacy	O
10	…visual thinking	O
11	…understand user literacy	O
12	…the use of typography and its judicial application.	O
13	…communication aspects of typography	O
14	… ideation for designing new typographic styles.	O
15	…ornamentations and typography.	O
16	… anatomy of typography.	O
17	…styles and trends of typography.	O
18	….symbols and icons	O
19	… colour theory.	O
20	… colour palette and imagery	O
	…history of art	O

21	…history of graphic design	O
22	… history of signage	O
23	… environmental aspects	O
24	… the principles of environmental graphic design	O
25	…human factors in open space environment.	O
26	… human factors in the architectural environment	O
27	… urban design	O
28	… aesthetic guidelines for architectural graphics.	O
29	… landscaping design and planning.	O
30	…understanding structure.	O
31	… awareness of all applicable stands for accessibility-visual and ergonomics.	O
32	… the economics of sign design.	O
33	… decision making and project management.	O
34	… communicate and sell idea and design to client.	O
35	… basic marketing.	O
36	… basic public relations.	
37	… best practice studies eg. ICOGRADA,AIGA, ISO etc.	O
38	… legal implication ie. Designers, liability, planning consent, display of information and copyright	O
39	… the usage of mapping system and users ability to understand them.	O
40	… accessibility issues.	O
41	… research skills	O
42	… analytical ability.	O
43	… how to fulfil a design brief	O
44	… question a brief.	O
45	… understanding of and ability to utilize tools and technology.	O

46	… manage the design and manufacturing process from brief to installation	O
47	… the process of planning and designing signage system	O
48	… sustainability.	O
49	… spatial awareness.	O
50	… coasting.	O
51	… presentation skills.	O
52	… how the work will be viewed by sign users.	O
53	… include many different functions in one sign.	O
54	…to use local cultural symbolism and colours	O
55	… recognise physical, cognitive, cultural and social factors that shape design decision.	O
56	… Gestalt psychology	O
57	… graphic design communication trends.	O
58	… screen printing.	O
59	… technical communication skills.	O
60	… ethics in practice	O
61	… different file forms.	O
62	… photographic method.	O
63	… drawing	O
64	… the role of printing machines in the sign industry.	O
65	…sign design software (both 2D and 3D).	O
66	…sign design software (both 2D and 3D).	O
67	…the clients stated and unstated needs.	O

Appendix Thirteen: Published Paper

Investigation of the Perception of Signage in Amman, Jordan

Appendix Fourteen: To be published

Appendix Fourteen: To be published

A cross-cultural photographic study of McDonald's corporate signage

A cross-cultural photographic study of McDonald's corporate signage

Essam Abu Awad, Professor Andree woodcock and Kollette Super

School of Art and Design, Coventry University. UK.

*Acknowledgements

Grateful acknowledgement is made to Sebastiaan Kroes for allowing the use of his photographs.

Abstract

McDonald's has become symbolic of globalisation, which is sometimes referred to as the "McDonaldization" of society. Globally, fast food is the most rapidly growing sector of the food service industry and McDonald's is the world's largest retail property owner. (Schwarz, 2004)

By presenting the idea of a quick restaurant meal in a comprehensible, consistent and acceptable form, the prevalence of McDonald's has led to the widespread adoption of much previously frowned-upon behaviour, such as eating while walking in Japan.

This paper investigates the extent to which McDonald's have adopted their signage system to local conditions in different cities of the world and, critically, the variation that McDonald's signage system has adopted in relation to the brand design.

McDonald's have constantly evolved their brand and have built upon the strength of the old design of the McDonald's 'M' to the Golden Arches which are now regularly split from the McDonald's text to maintain a modern look easily incorporated into areas with conservation regulations.

From a photographic analysis it has been found that the signage used does not always fit with the surrounding environment. In some cities where the regulation of signs has not been adopted particularly where it is necessary to preserve the architectural identity of the building or to comply with imposed legislation and regulation.

Appendix Fifteen: Online Published Articles

Appendix Fifteen: Online Published Articles

http://ezinearticles.com/?expert=Essam_Abu_Awad

Recent Articles By Essam Abu Awad Signing in Amman
Arts and Entertainment: Visual Graphic Arts • Published: December 11, 2009

A visitor to Amman in Jordan will immediately notice the huge amount of advertising hoardings and signboards that adorn the buildings. They attract attention because of their size, location, design and the materials used. They reflect both the profession of the graphic designer and the state of the signage industry in Jordan.

Teaching Graphic Design in a Digital Age
Arts and Entertainment: Visual Graphic Arts • Published: December 9, 2009

It is necessary to focus on how the teaching of graphic design is governed and managed in Jordan. Graphic design is a relatively new practice to Jordan and the Arab world. This is especially true of the skill of teaching Graphic Design as unlike other branches of art, Graphic Design does not have strengthened roots or an identity as part of the Arab culture.

I Will Act Always As a Designer
Arts and Entertainment: Visual Graphic Arts • Published: November 5, 2008

It is my daily nightmare. No, it is not a true nightmare, let us say, a visitor. It is not only a night visitor; it is a visitor of every time.

Impacts of Graphic Design Development on Teaching Graphic Design in the Arab World
Arts and Entertainment: Visual Graphic Arts • Published: August 14, 2008

I don't firmly believe that the Arabic library contains sufficient books dealing analytically with Graphic Design that could support the Arabic universities, with specialized art academies, and could be utilized as special curriculum within the teaching plans of these academies. The Arabic library is condensed with other artistic methodological books in addition to some translated books which discuss the basics of design, advertisement, and other topics that fall within the framework of advertisement.

A Whisper in the Ears - Jordanian Designers!
Arts and Entertainment: Visual Graphic Arts • Published: August 8, 2008

Knowing who we are and what exactly we need. We are the designers of Jordan. Where are we? What do we innovate, alter and create?

An Eye on Graphic Design
Arts and Entertainment: Visual Graphic Arts • Published: July 28, 2008

We find it mandatory to say that graphic design, this late specialty, quick in its development, related to all walks and activities of life, this only comprehensive

technical specialty due to its relation with a piece of information and technology, we know it by its many names besides graphic design, for it is a design of a piece of information and design of communication means. All of these names refer to the extent of its development as an independent science, the task of which in to find solution to problems in the field of promotion, presentation or communication. Therefore, it ...

A Graphic Designer for the Future
Arts and Entertainment: Visual Graphic Arts • Published: July 16, 2008

How does graphic design works in the Arab words? An introduction to the state of graphic design sector in the Arab World. What are the characteristics of the designer that we need in the future?

Relationship of Graphic Design with Printing
Arts and Entertainment: Visual Graphic Arts • Published: July 16, 2008

All methodological and non-methodological books agree with the logic which provides that graphic design is not graphic art on the strength that graphic art is older than graphic design and is as old as man and has evolved with his evolution. Graphic art was defined as the art of obtaining repetitive copies of an item to be printed and bearing same specifications. It is the techniques of engraving and printing by using the Litho stone and zinc, through dry and wet engraving methods and other methods.

Design Characteristics for the Future
Self Improvement: Motivation • Published: July 16, **2008**

Is it possible for us to perceive the future? Is it possible for us to understand the design characteristics of the future? Of course we can!

The State Of Graphic Design in Jordan
News and Society: Economics • Published: January 31, 2008

Jordan's unique geographical position results in its experts choosing self development, which includes graphic design. Experts are also involved with developments taking place in neighbouring countries and the internet was extremely useful in putting interested parties in these two fields in touch with each other and sharing possible development tools.

Graphic Designer - Torn Between His Fears and Creativity!
Self Improvement: Creativity • Published: December 14, 2007

Confusion and concern are more dangerous to creativity and innovation than fear. For, they may lead the designer to a complete paralysis. Fear can become a positive reaction unless it turns to concern and confusion.

Appendix Sixteen: Conference Papers

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- Conference on (benefiting from information revolution in developing instructional methodologies in Arab Universities) by presenting a paper on **Graphic Design and IT**. I also participated in the recommendations formulation committee of the conference during 12-13-14/ March/2001, in Madam Lovzia (Notre dam)- Lebanon.

- Symposium help by the supreme council sponsoring arts, and social sciences. (colleges arts, Humanitarian Sciences, education: reality and means of development) Tashreen University- Lathiqia 14-17/March 2002. A paper on the Academic Book on Graphics: **Graphic Design: a world curriculum correlated with other sciences**.

- 3rd conference of Arab Contemporary Art- Yermuk University. Faculty of Fine Arts 27/29 May 2003. Submitted a paper at the title Participation: submitting a paper titled (**Graphic Design: one of the most important tools in production technology and publishing**).

- Conference of the college of arts and literature at Philadelphia University under the title: Expecting the Future from 26-28/April 2004. The title of the paper's (**Future of Graphic Design**).

- Forum on development and updating the special standards for interior and graphic design on 22-05-2004. Organizer: The Ministry of High Education and Scientific Research. Title of the paper is (**Notes on the Vocational Axis and Practical Training in Design Specialties**).

- Participation in the 4th Conference for Contemporary At Al-Yermuk University, from 23-25 Nov. 2004. Title of the paper: **Challenges Facing Teaching Graphic Design in University**.

Academic Book:

- Preparation of Fashion Design Course (An Academic Course introduced to textiles and fashion design faculty) in Open Al-Qudus University, 1991- Preparation of textiles Printing (A course introduced to textiles and fashion design Faculty) at Open Al-Qudus University, 1991.